

30 Day Price Trend vs Market



Description

Compares the stock's performance to the S&P 500 index over the past month:

Calculation:

$$100^* \frac{(\text{Latest Close Price of Stock} / \text{Latest Close price of S\&P 500})}{(\text{Close Price 4 weeks ago} / \text{Close Price of S\&P 500 4 weeks ago})}$$

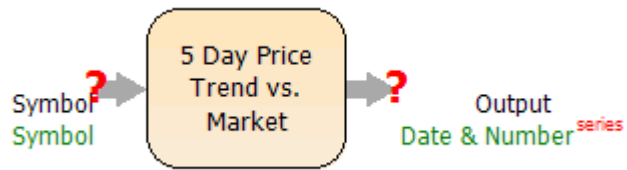
Uses:

This block is used to plot a 30 Trend vs. Market study.

Example:

See [30 Day Trend vs. Market](#) study.

5 Day Price Trend vs Market



Description

Compares the stock's performance to the S&P 500 index over the past 5 days.

Calculation:

$$100 * \frac{(\text{Latest close price of stock} / \text{Latest close price of S\&P 500})}{(\text{Close price 5 days ago} / \text{Close price of S\&P 500 5 days ago})}$$

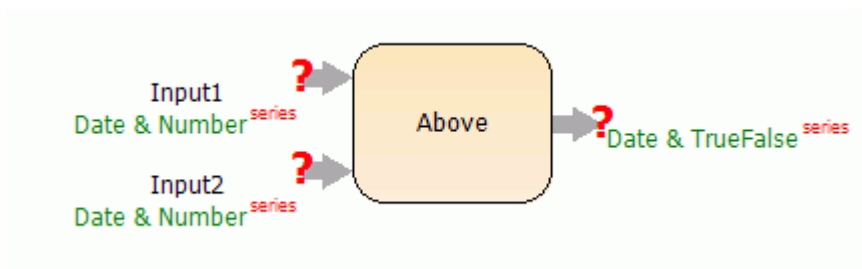
Uses:

This block is used to plot a 5 Day Trend vs. Market study.

Example:

See the [5 Day Trend vs. Market](#) study.

Above



Description

The Above block takes in two date/number series and returns a True for each date that Input1 is above (greater than) Input 2.

Uses:

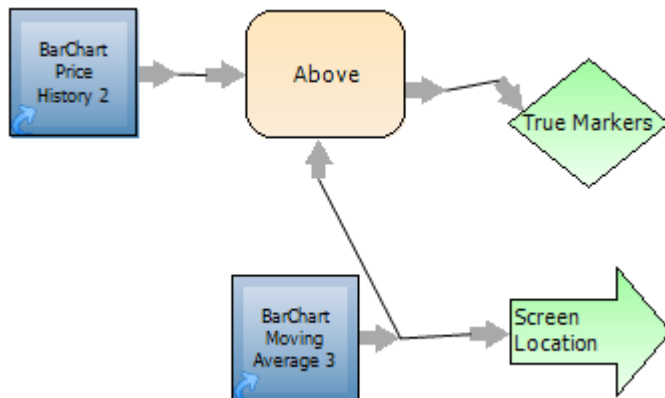
The Above block is used anytime you want to compare the values of one line to another. It has many uses including true markers on a chart, creating strategies that compare one line to another, and coloring lines.

Example 1:

The Above block can be used to plot true markers for all the days that the moving average is above the close price.



True markers on the days when the moving average is above the close.



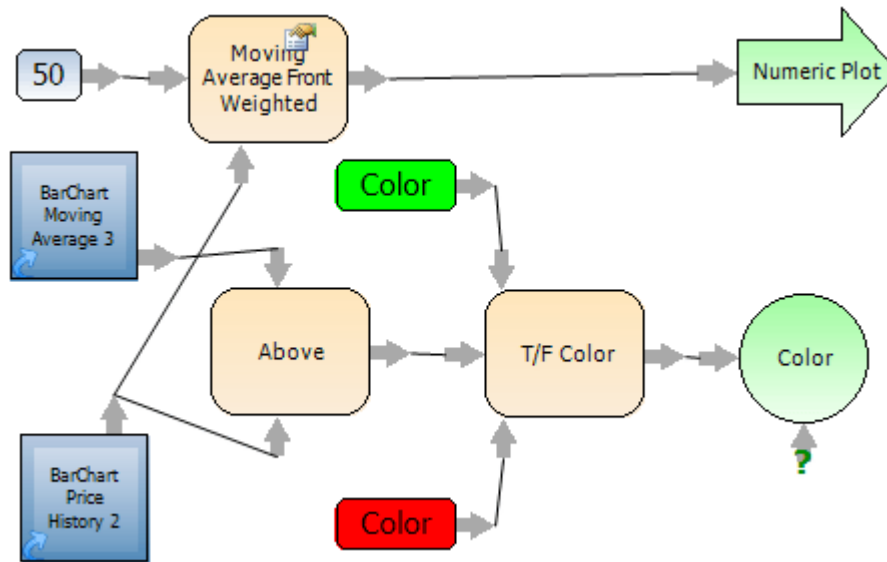
Block diagram for the example above.

Example 2:

The Above block can be used to color the moving average line green when it is above the close price.



Moving average line is green on the days that it is above the close price.



Block diagram for the example above.

Example 3:

The Above block is often used in creating strategies. The example below places a Buy marker on the chart when the Forecast Oscillator is above its own moving average.

Buy

Forecast Oscillator 14, >, Avg, 3, True 1, of 1, 1 Day

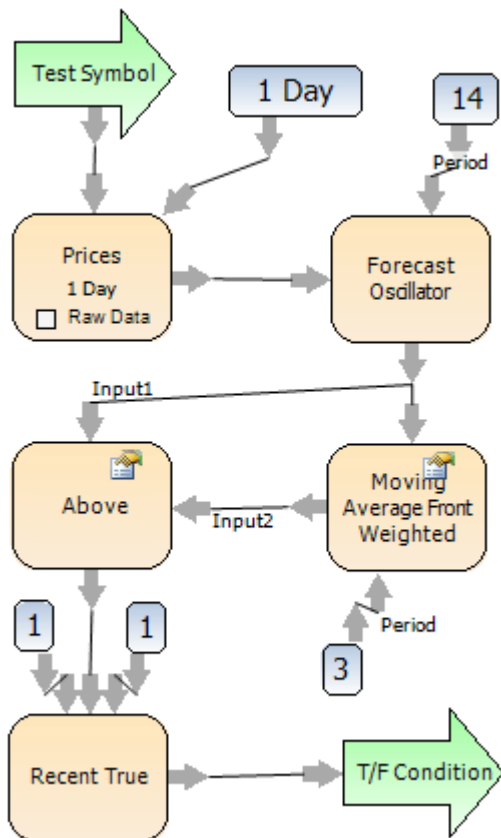
Sell

New High 300, , True 1, of 1, 1 Day

Forecast Oscillator is compared to its own moving average using the Above block.

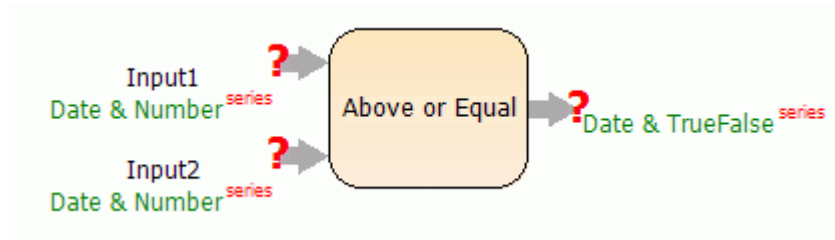


A Buy marker is placed on the day that the Forecast Oscillator is above its own moving average. A Sell marker is then placed when the stock hits a new 300 day high.



Block diagram for the above Forecast Oscillator vs. Moving Average strategy.

Above or Equal



Description

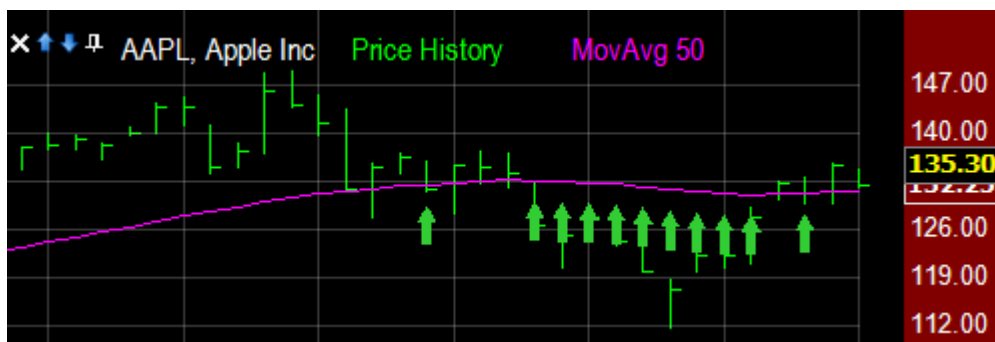
Block that compares two date/number series and returns True for each date where Input1 is greater than or equal to Input2.

Uses:

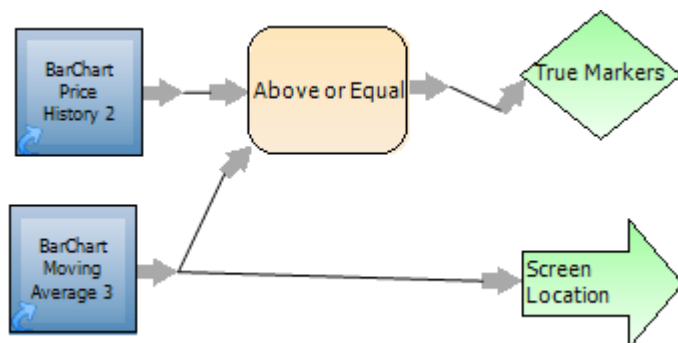
The Above or Equal block is used anytime you want to compare the values of one line to another. It has many uses including true markers on a chart, creating strategies that compare one line to another, and coloring lines.

Example 1:

The Above or Equal block can be used to plot true markers for all the days that the moving average is above or equal to the close price.



True markers on the days when the moving average is above or equal to the close.



Block diagram for the example above.

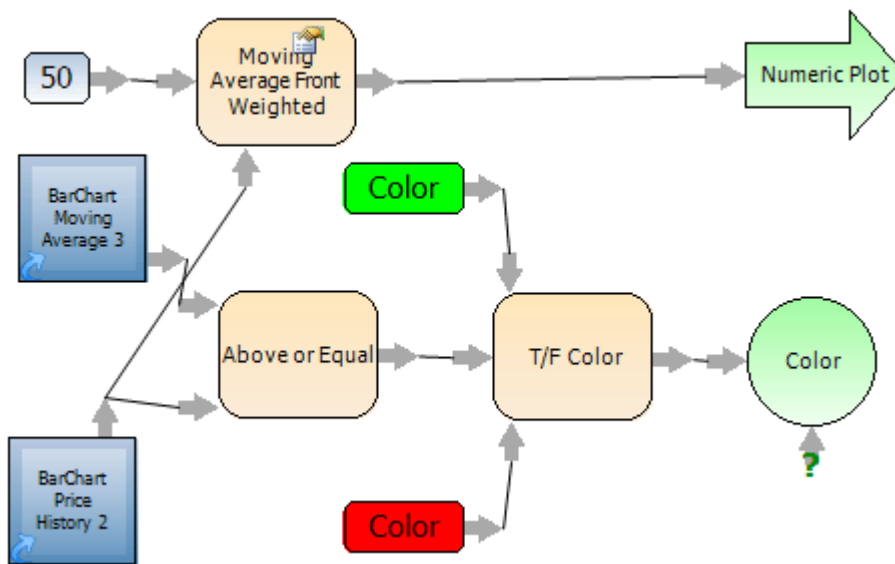
Example 2:

The Above or Equal block can be used to color the moving average line green when it is above or equal to

the close price.

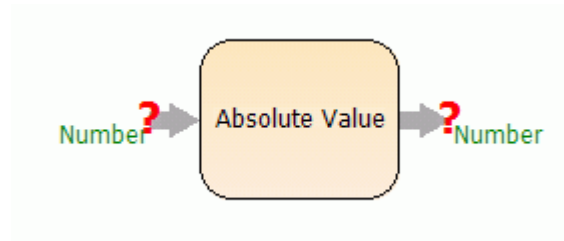


Moving average line is green on the days that it is above or equal to the close price.



Block diagram for the example above.

Absolute Value



Description

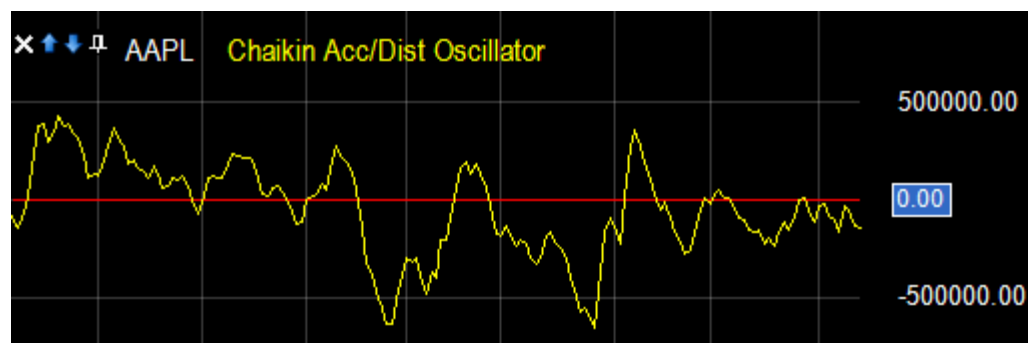
Returns the absolute value of the input. 2 or -2 will return 2. The absolute value of a number is the number's distance from zero. It is always either a positive number or zero.

Uses:

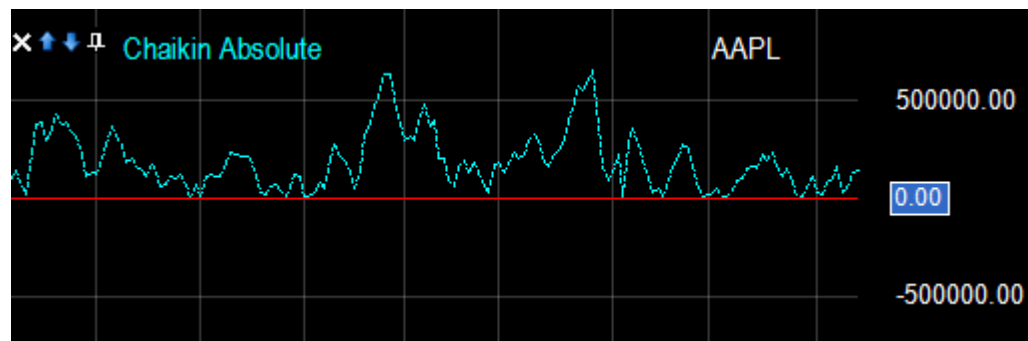
The Absolute Value block is used anytime you want to convert a line with positive and negative values to one with all absolute values.

Example 1:

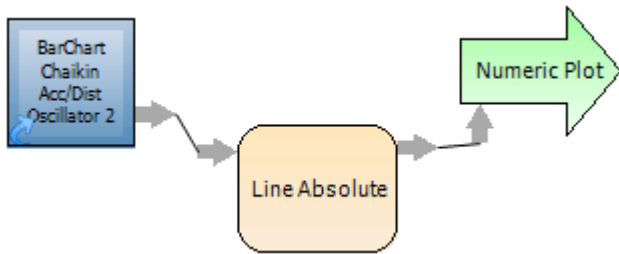
The absolute Value block could be used to change an oscillator into a line of all positive numbers.



An oscillator has values that are both positive and negative.

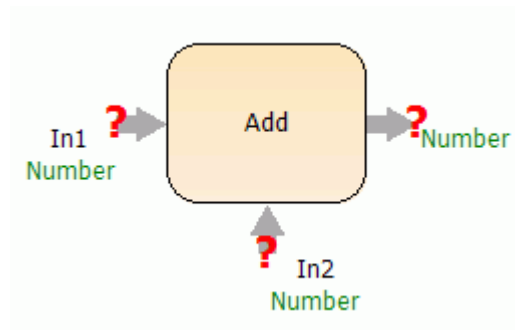


Adding an Absolute Value block to the oscillator makes all the values positive.



Block diagram for the absolute value of the Chaikin Oscillator.

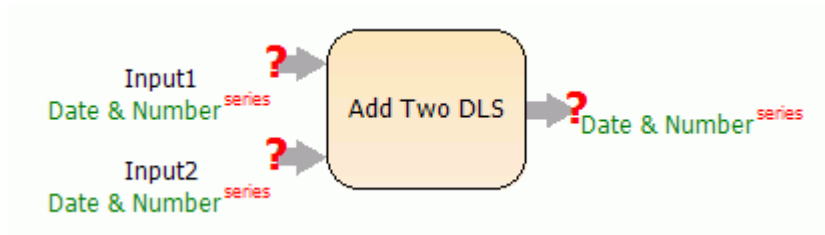
Add



Description

Adds two numbers and outputs the sum.

Add Two DLS



Description

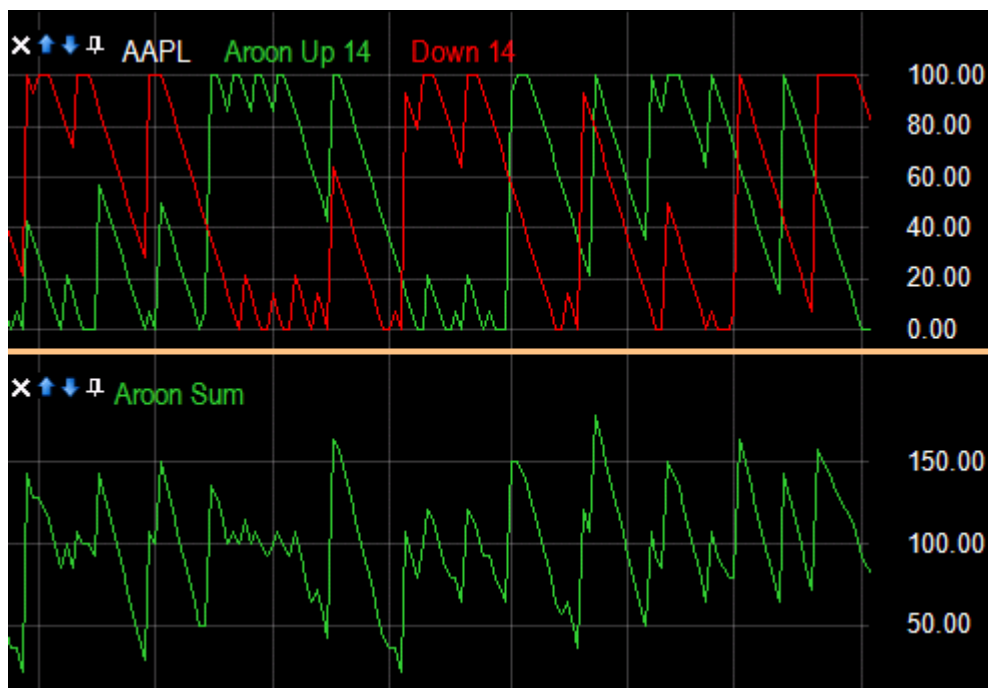
Adds together the values of two Date & Number Series and outputs the sum for each date.

Uses:

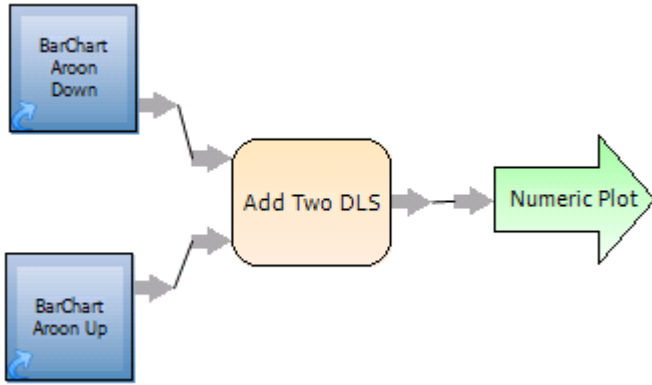
The Add Two DLS block is used anytime you want to add two lines to each other. Uses include creating studies and indicators.

Example:

The example below is built off of the Aroon Personal Chartist Study. The Aroon Sum line in the bottom pane is the sum of the Aroon Up and Aroon Down lines in the top pane.

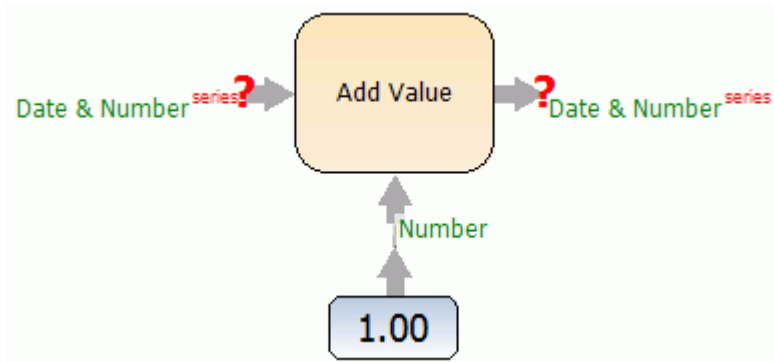


The Aroon Sum plot in the bottom pane uses the Add Two DLS block to sum together the Aroon Up and Aroon Down lines.



Block diagram for the Aroon Sum plot on the bottom pane of the chart above.

Add Value



Description

Returns a Date & Number Series added to a user selectable number. In the illustration above, the Number for each date is increased by 1.00.

Uses:

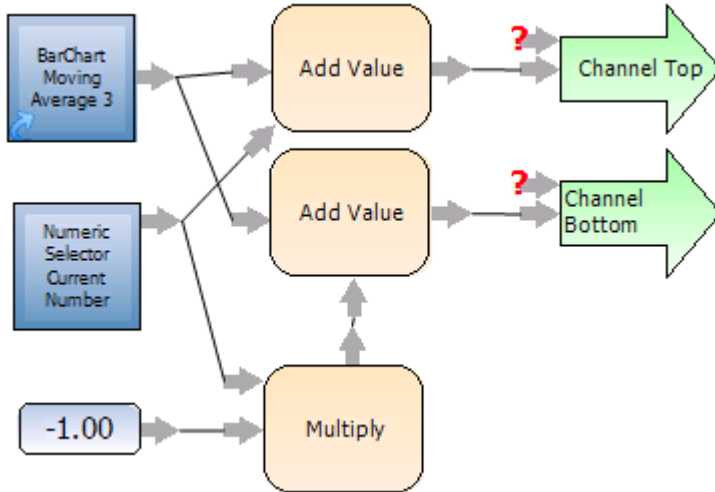
The Add Value block is used anything you want to add the same value to each of the numbers in a Date & Number Series.

Example:

The following example creates a channel out of a moving average of the Price History. It adds the value in the Numeric Selector in the upper right to the moving average to create the top channel. To create the bottom channel, it takes the value in the Numeric Selector, multiplies it by -1, and then adds that negative value to the moving average.

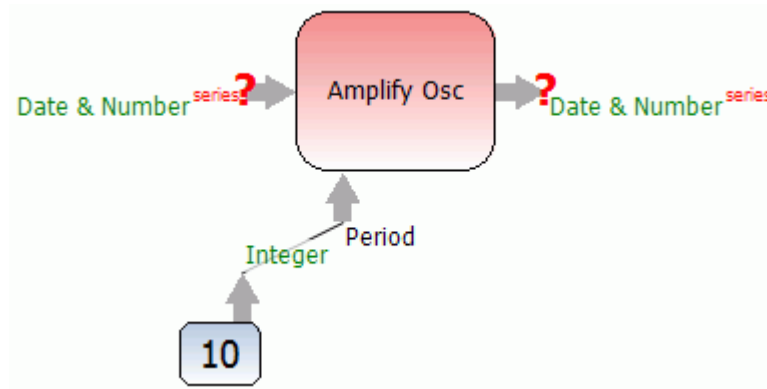


The Numeric Selector in the upper right of the chart determines the width of the MA Channel plot.



Block diagram for the MA Channel plot in the chart above. Notice that the bottom channel adds the negative value of the Numeric Selector to create the bottom channel.

Amplify Osc

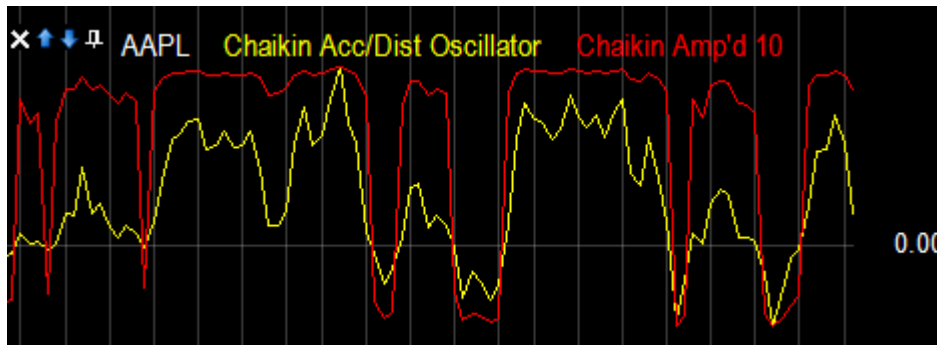


Description

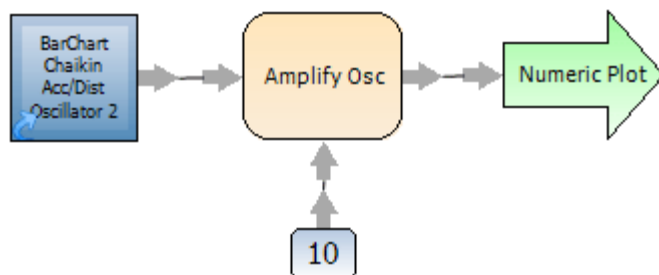
Amplify an oscillator line by a factor.

Example:

The example below shows Chaikin Acc/Dist Oscillator and the same indicator with the Amplify Osc block added.

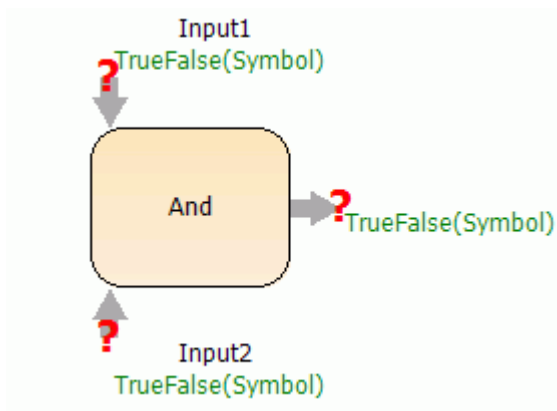


The Chaikin Amp'd 10 plot used the Amplify Osc block to smooth out the Chaikin Acc/Dist Oscillator plot.



This is the block diagram for the Chaikin Amp'd 10 plot above.

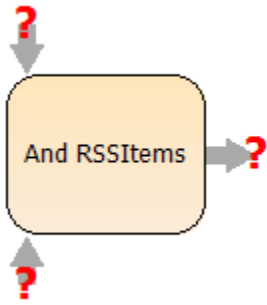
And



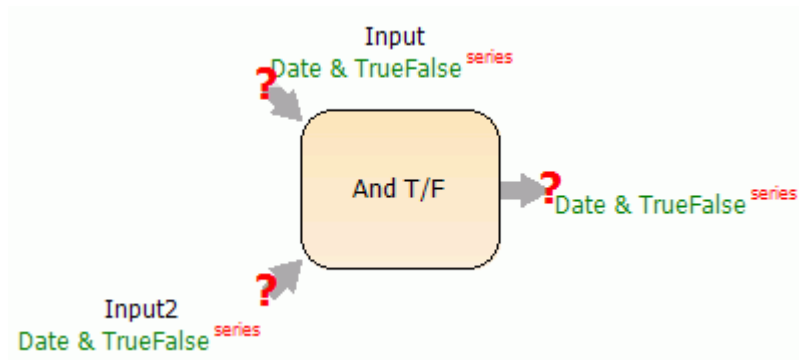
Description

Returns True if both Input1 and Input2 are True, otherwise it returns False

And RSSItems



And T/F



Description

Returns Date T/F Series whose values are True when both input lines are True.

Uses:

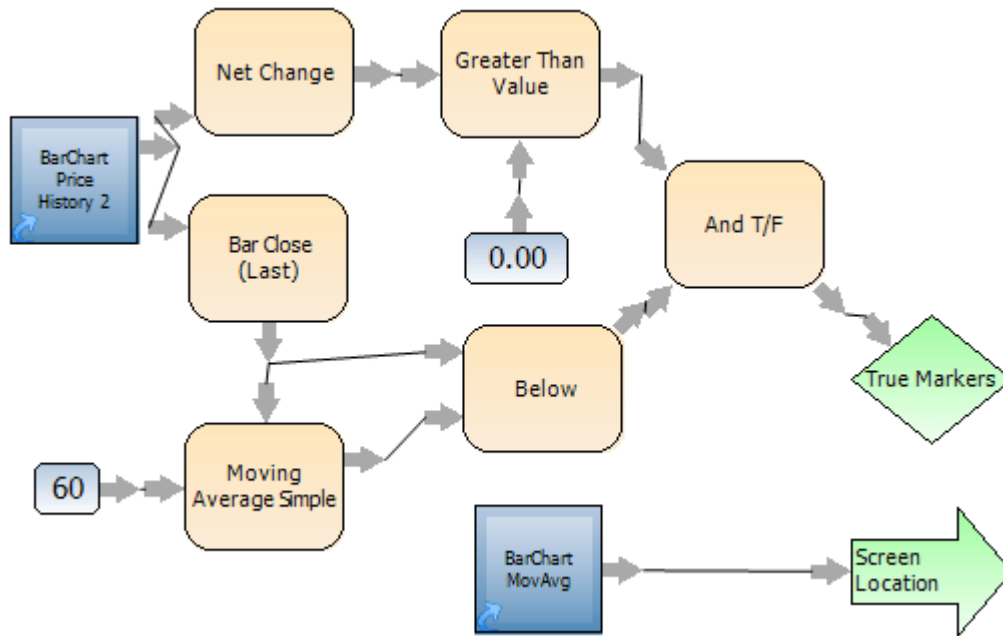
The And T/F block is used anytime you want to have two conditions be true to qualify as true. Uses for this block include generating markers on a chart, creating strategy conditions, and coloring lines on a chart or a table.

Example 1:

The following example places a true marker on the chart when both the net change between the present close and the previous close is positive and the close price is below its 60 day moving average.



The True Markers True/False plot in the top pane places an arrow on any bar whose net change is positive and whose close price is below its own 60 day moving average.



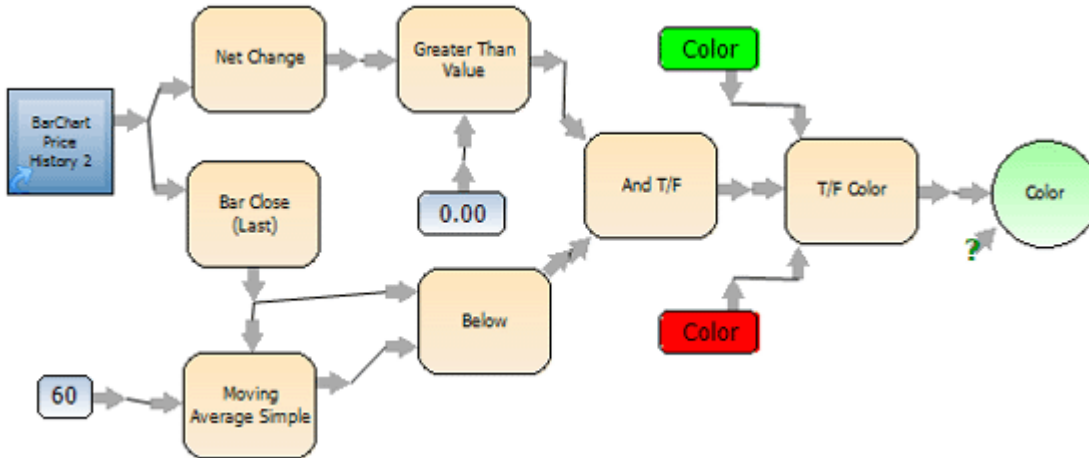
This block diagram is for the True Markers plot in the top pane of the chart above.

Example 2:

The following example colors the bars green when both the net change between the present close and the previous close is positive and the close price is below its 60 day moving average. If the bar does not meet these conditions, it is colored red.

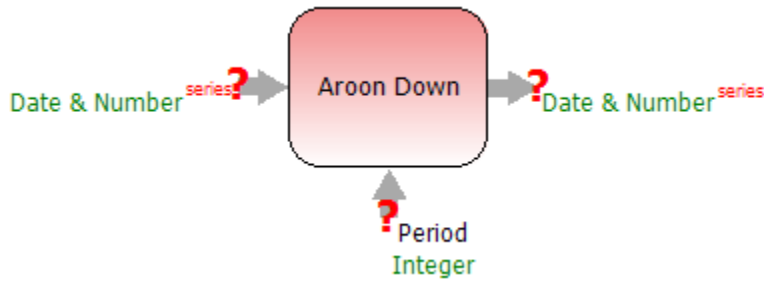


The price bars in the top pane are green on any bar whose net change is positive and whose close price is below its own 60 day moving average. Otherwise the bar is colored red.



The block diagram above is the coloring of the price bars in the top pane of the chart above.

Aroon Down



Description

Returns the Aroon Down indicator for the period provided.

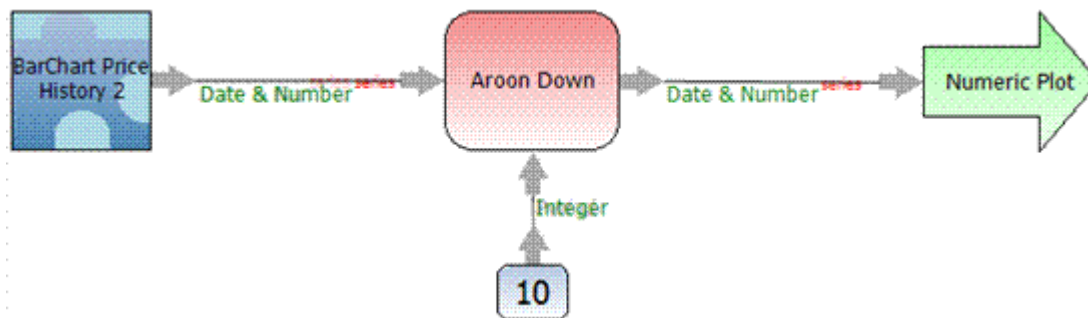
Uses:

The Aroon Down block is used to calculate the Aroon Down indicator.

Example:

The block diagram below draws the Aroon Down indicator on a chart for the Price History provided.

See also the [Aroon Up/Down](#) indicator and the [Aroon Up](#) block.



The above example returns a 10-period Aroon Down for the Prices provided.

Source Code

```
<WBIGuid("f80bab25-355b-4fca-80a8-0624f42b493d"),FriendlyName("Aroon Down"),ClassAuthor("The  
Blocks Company,LLC - JK", _  
"Provides the Aroon Down indicator for the period provided.", "10/17/2006")> _  
Public Class AroonDown  
inherits BaseDLBtoDLSPeriod  
'Version 1.03  
Public Overrides Sub calculate()  
'-----  
' This file is part of the Blocks Code Library.  
'  
' Copyright (C) Worden Brothers, Inc.. All rights reserved.  
'  
' Worden Brothers, Inc.. believes the information  
' within this code block to be correct but does not  
' guarantee its accuracy.  
' You are licensed to use this source code for your own private use.  
' It may not be re-distributed or sold without express permission  
' from Worden Brothers. Inc..
```

```
'  
'  
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY  
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE  
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A  
' PARTICULAR PURPOSE.  
'
```

```
' For the source code and more information on this block go to  
' kb.worden.com And search for "Aroon Down."  
'-----
```

```
Dim LowForCurrentPeriod As Single  
Dim LowForPeriods As Single  
Dim indexOfLow As Integer  
Dim periodsSinceLow As Integer  
Dim firstPreviousPeriod As Integer  
Dim Period As Single  
Period = ParameterValue  
If Period < 1 Then Period = 1  
If Period > inputcount - 2 then Period = InputCount -2
```

```
For i As Integer = Period To InputCount - 1  
LowForPeriods = InputLow(i)
```

```
'calculate the Low for periods + 1  
For y As Integer = i - Period To i  
If InputLow(y) <= LowForPeriods Then  
LowForPeriods = InputLow(y)  
indexOfLow = y  
End If  
Next
```

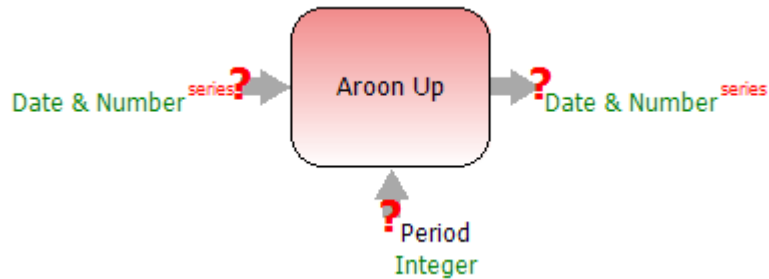
```
periodsSinceLow = i - indexOfLow
```

```
Me.CodeBlock.AddToOutput(InputDate(i), _  
((Period-periodsSinceLow)/Period)*100)
```

```
indexOfLow = 0  
PeriodsSinceLow = 0  
Next
```

```
End Sub  
End Class
```

Aroon Up



Description

Returns the Aroon Up indicator for the period provided.

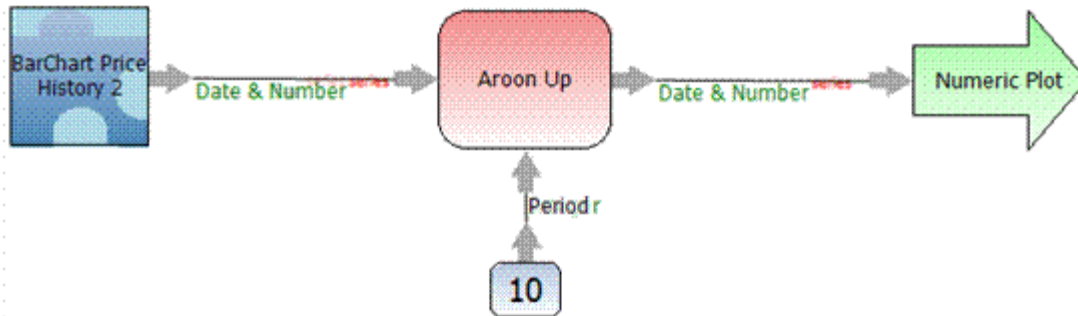
Uses:

The Aroon Up block is used to calculate the Aroon Up indicator.

Example:

The block diagram below draws the Aroon Up indicator on a chart for the Price History provided.

See also the [Aroon Up/Down](#) indicator and the [Aroon Down](#) block.



The above example returns a 10-period Aroon up for the Prices provided.

Source Code

```
<WBiGUID("17858050-e3b7-4465-94f9-f71ec4170bda"),FriendlyName("Aroon Up"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Aroon Up indicator for the period provided.",
"10/17/2006")> _
Public Class AroonUp
Inherits BaseDLBtoDLSPeriod
'Version 1.03
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
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' within this code block to be correct but does not
' guarantee its accuracy.
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' from Worden Brothers, Inc..
'
```

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' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.

' For the source code and more information on this block go to
' kb.worden.com And search for "Aroon Up."

```
Dim HighForCurrentPeriod As Single
Dim HighForPeriods As Single = 0
Dim indexofHigh As Integer
Dim periodsSinceHigh As Integer = 0
Dim firstPreviousPeriod As Integer
Dim Period As Integer
Period = ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount - 2 Then Period = inputcount - 2
```

```
HighForPeriods = InputHigh(0)
For i As Integer = Period To InputCount - 1
```

```
    'calculate the High for periods + 1
    For y As Integer = i - Period To i
        If InputHigh(y) >= HighForPeriods Then
            HighForPeriods = InputHigh(y)
            indexofHigh = y
        End If
    Next
```

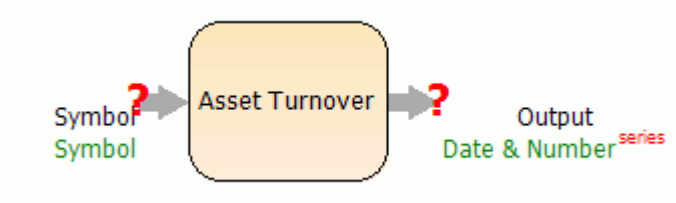
```
    periodsSinceHigh = i - indexofhigh
```

```
    AddToOutput(InputDate(i), _
        ((Period-periodsSinceHigh)/Period)*100)
```

```
    HighForPeriods = 0
    indexofHigh = 0
    PeriodsSinceHigh = 0
Next
```

```
End Sub
End Class
```

Asset Turnover



Description

Fundamental data block that returns the Asset Turnover value for a symbol.

Definition

Asset Turnover equals revenue divided by the average of total assets from the most recent two balance sheets. It measures the ratio at which each dollar of assets will generate a dollar of revenues.

Uses:

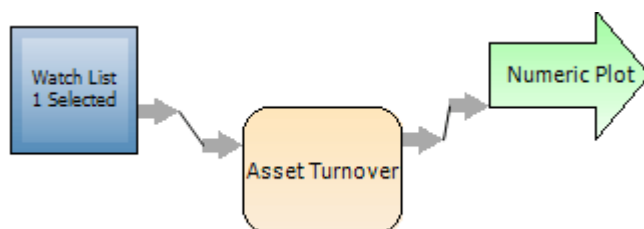
The Asset Turnover block is used to calculate the asset turnover for a symbol.

Example:

The example below plots the asset turnover on a chart for the selected symbol.

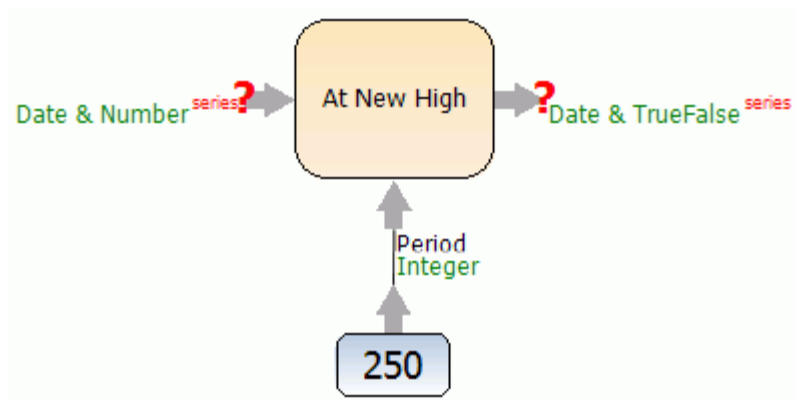


The Asset Turnover plot above shows the asset turnover for AAPL.



Block diagram for the Asset Turnover plot in the chart above.

At New High



Description

Outputs Date & TrueFalse series which returns True for each date the input number is at a new high for the given period.

Uses:

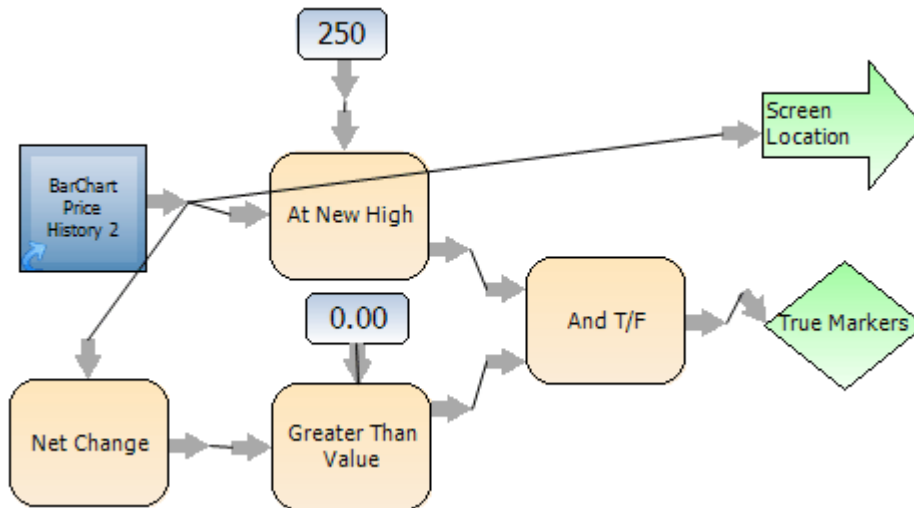
The At New High block can be used for a variety of things including true markers on a chart and creating strategies.

Example 1:

The example below places a true marker on the Price History bar chart when the stock has hit a 250 day new high.



The true markers above are placed on the days that AAPL reached a new 250 day high.



Block diagram for the true markers in the chart above.

Example 2:

The example below places a Buy marker on the chart when the stock is at a new 250 day high.

Buy

At New High 1 Day, 250

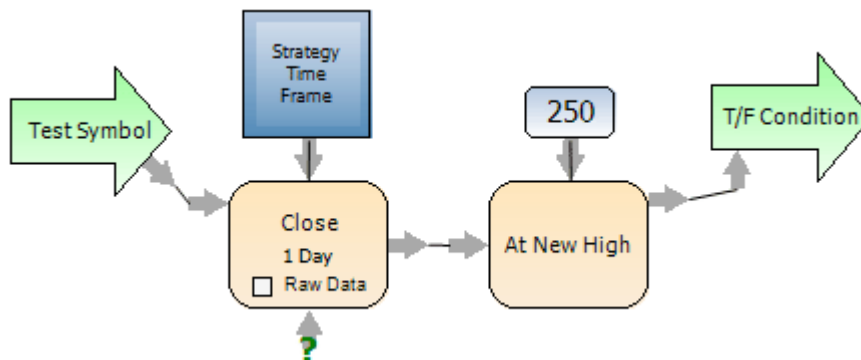
Sell

Profit Target 10.00, %

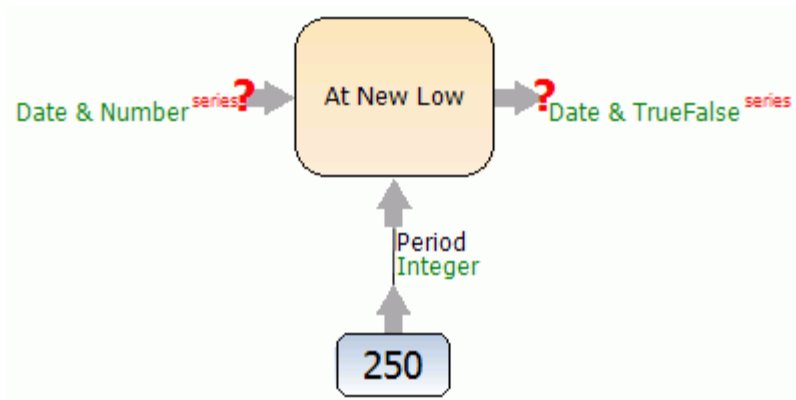
At New High is set to buy when it reaches a 250 day high.



A Buy marker is placed on the day that AAPL hits a new 250 day high. A Sell marker is then placed when the stock hits its 10% profit target.



At New Low



Description

Outputs Date & TrueFalse series which returns True for each date the input number is at a new low for the given period. In the illustration above, a True value will be returned for any date where the input value is the lowest value in the last 250 periods.

Uses:

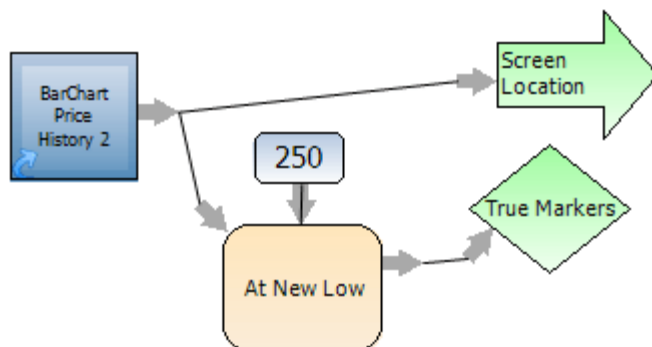
The At New Low block can be used for a variety of things including true markers on a chart and creating strategies.

Example 1:

The example below places a true marker on the Price History bar chart when the stock has hit a 500 day new low.



The true markers above are placed on the days that ERTS reached a new 500 day low.




The block diagram for the true markers in the chart above.

Example 2:

The example below places a Buy marker on the chart when the stock is at a new 500 day low.

Buy 

At New Low 500

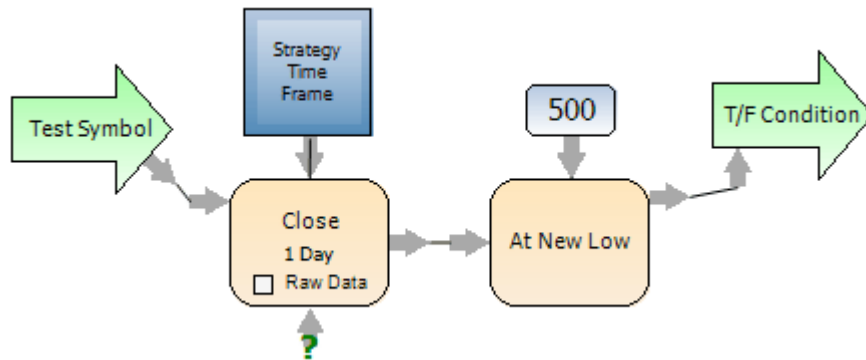
Sell 

Profit Target 10.00, %

At New Low is set to buy when it reaches a 500 day low.

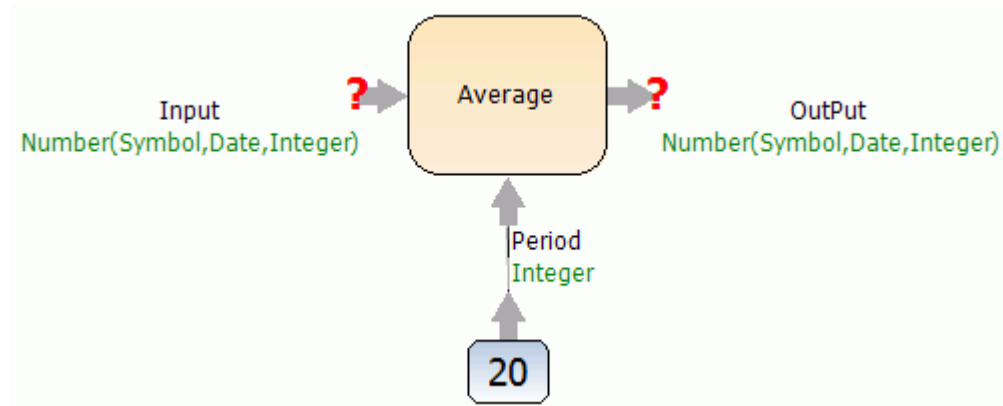


A Buy marker is placed on the day that YHOO hits a new 500 day low. A sell marker is then placed when the stock hits its 10% profit target.



Block diagram for the At New Low strategy above.

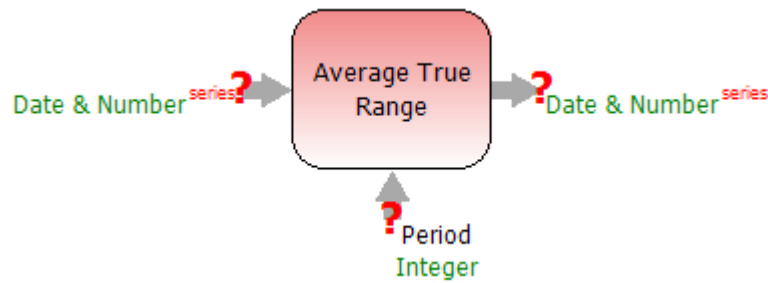
Average



Description

Returns the average for the supplied Period.

Average True Range



Description

Returns the Average True Range indicator for the period provided.

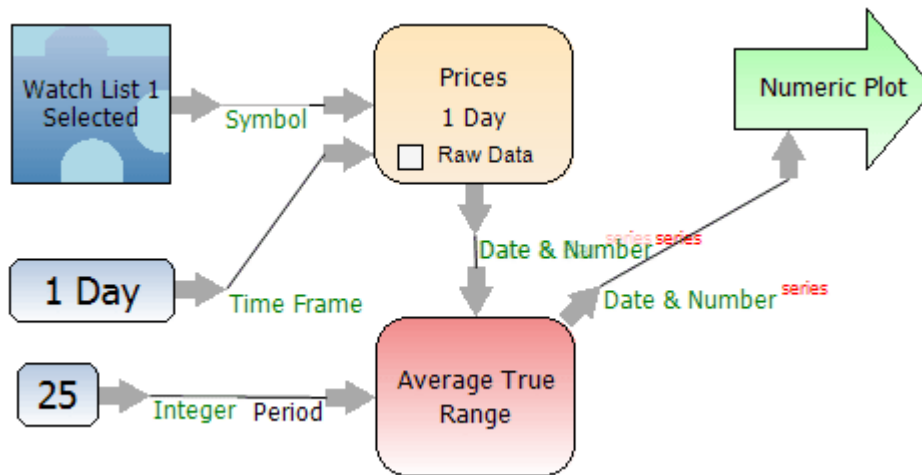
Uses:

The Average True Range block is used to calculate the Average True Range indicator.

Example:

The block diagram below plots a 25-day Average True Range of the incoming prices for the selected Watch List Symbol.

See also the [Average True Range](#) indicator.



Source Code

```
<WBiGuid("fd3e1e66-f15d-46c5-8f4d-dd9a298235f3"),FriendlyName("Average True Range"), _
  ClassAuthor("The Blocks Company,LLC - JK", "Provides the Average True Range Indicator for the period
  provided.", "10/17/2006")> _
Public Class Average_True_Range_New
Inherits BaseDLBtoDLSPeriod
'Version 1.02
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
'
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```

```
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Average True Range."
'-----
```

```
Dim ATR As Single
Dim prevATR As Single
Dim sumforATR As Single
Dim H As Single
Dim L As Single
Dim YestC As Single
Dim Range As Single

Dim Period as Integer = Me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount-2 Then Period = inputcount - 2

'calc first precATR
YestC = 0
For i As Integer = 0 To Period - 1
    H = Me.CodeBlock.InputHigh(i)
    L = Me.CodeBlock.InputLow(i)

    ATR = System.Math.Abs(H - L)
    ATR = System.Math.Max(ATR, system.Math.Abs(YestC - H))
    ATR = System.Math.Max(ATR, system.Math.Abs(YestC - L))

    sumForATR += ATR

    YestC = Me.CodeBlock.InputLast(i)
Next

prevATR = sumForATR/Period

For i As Integer = Period To Me.CodeBlock.InputCount -1

    H = Me.CodeBlock.InputHigh(i)
    L = Me.CodeBlock.InputLow(i)
    YestC = Me.CodeBlock.InputLast(i-1)

    Range = System.Math.Abs(H - L)
    Range = System.Math.Max(Range, system.Math.Abs(YestC - H))
    Range = System.Math.Max(Range, system.Math.Abs(YestC - L))

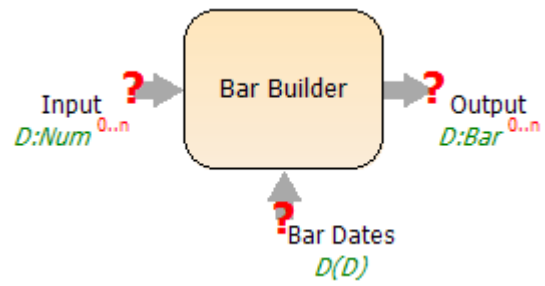
    ATR = ((Range - prevATR)/Period) + prevATR

    Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), ATR)

    prevATR = ATR
Next
```

End Sub
End Class

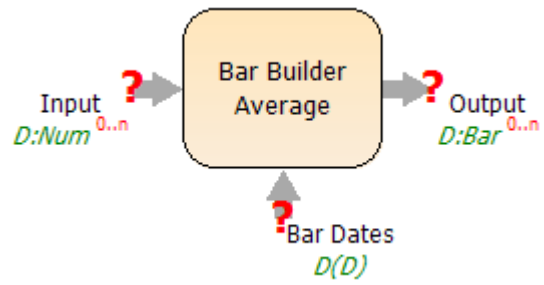
Bar Builder



Description

Builds Bars based on the Dates provided.

Bar Builder Average



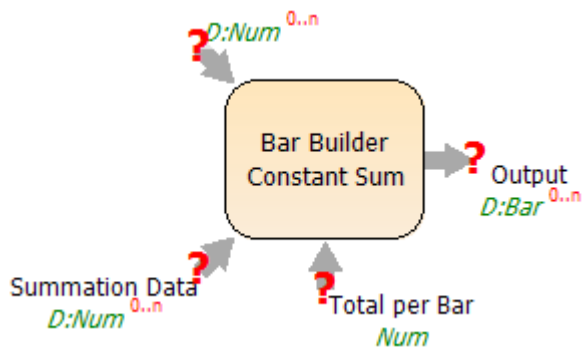
Description

Builds Average Bars based on the Dates provided.

Related Articles

 [Day of Week](#)

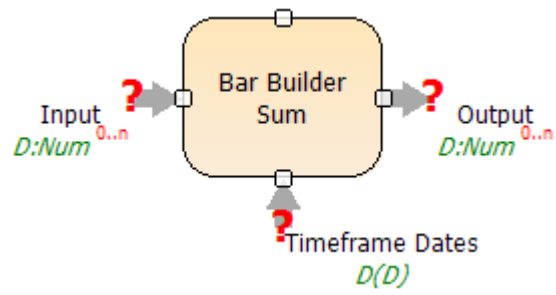
Bar Builder Constant Sum



Description

Builds Bars based on a constant summation value.

Bar Builder Sum



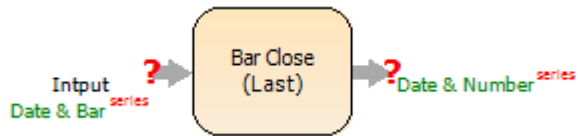
Description

Sums the values spanning the provided interval.

Related Articles

 [Day of Week](#)

Bar Close (Last)



Description

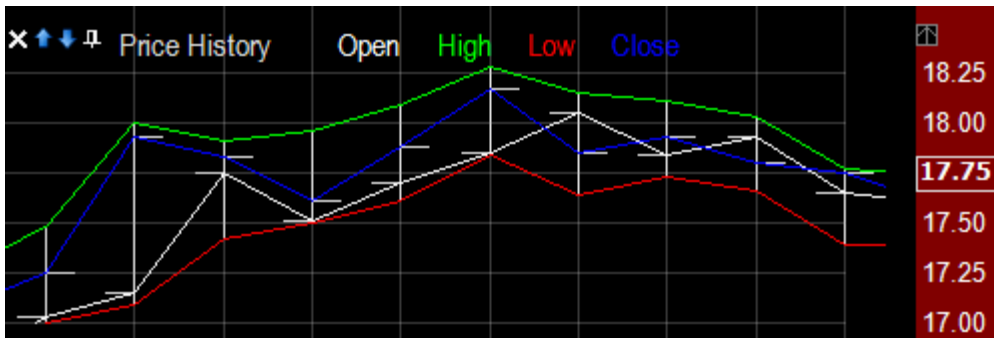
Gets the Close prices from a Date & Bar Series.

Uses:

The Bar Close block is used anytime you want to get access to the Close prices in a Date & Bar Series.

Example:

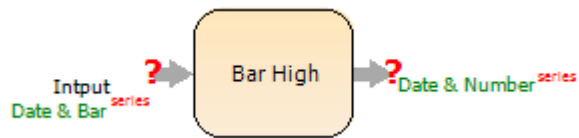
This example plots Open, High, Low and Close as individual lines overlaid on top of OHLC bars.



The Close plot above uses the Bar Close block to display the Close prices for Price History.



Bar High



Description

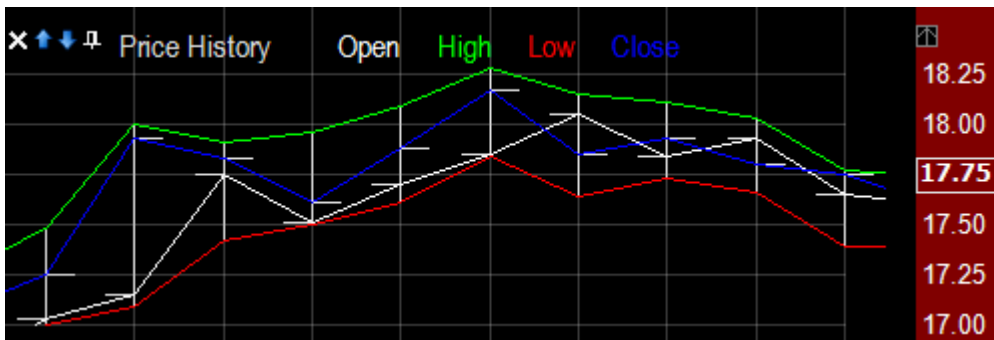
Gets the High prices from a Date & Bar Series.

Uses:

The Bar High block is used anytime you want to get access to the High prices in a Date & Bar Series.

Example:

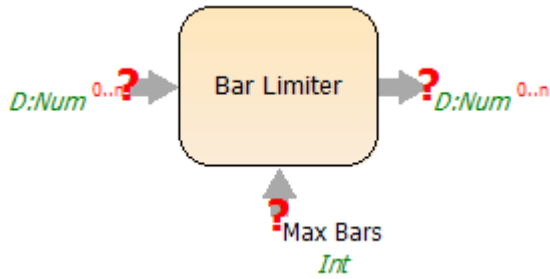
This example plots Open, High, Low and Close as individual lines overlaid on top of OHLC bars.



The High plot above uses the Bar High block to display the High prices for Price History.



Bar Limiter



Description

Limits the number of Dates & Bars it provides to an amount equal to the Max Bars provided. The limiter always returns the most current dates.

Uses:

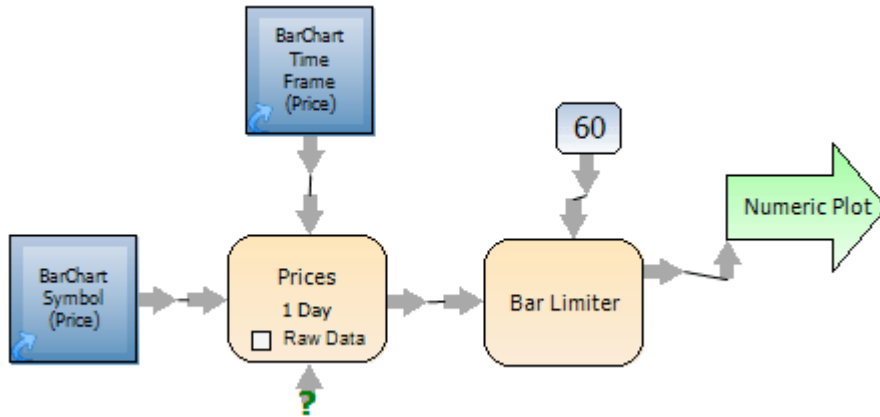
The Bar Limiter block is used anytime that you don't necessarily need all the data provided by a Date & Bar series. For instance, this comes in handy if you want to do a complex calculation off another Date & Bar Series and you know that the calculation is very processor intensive. By limiting the amount of bars going into the calculation, you lesson the load on your computer.

Example 1:

This example limits the bars coming from Price History to 60 bars which are displayed in the bottom pane.



The Price History Limited 60 plot in the bottom pane is the last 60 bars from the Price History plot in the top pane.



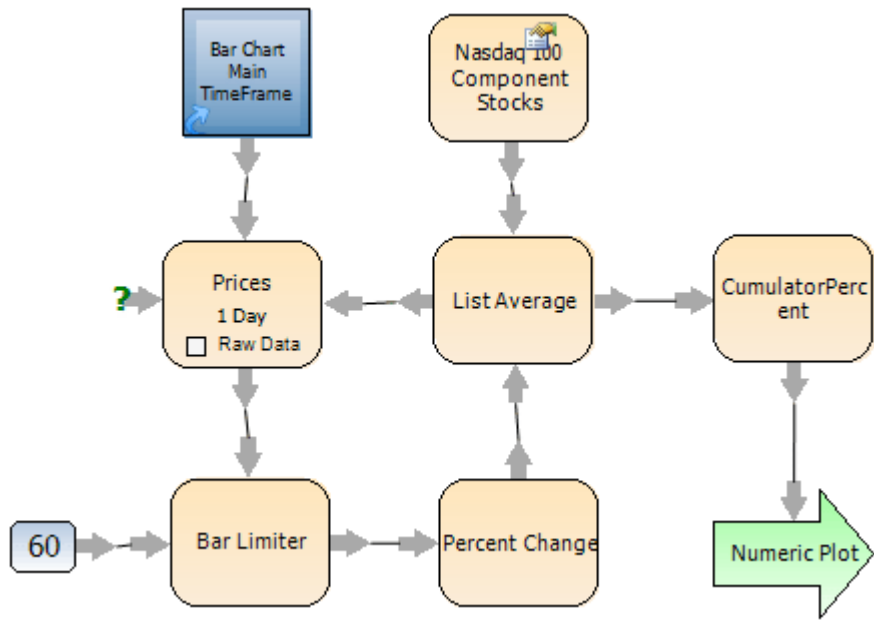
Block diagram for Price History Limited 60 above.

Example 2:

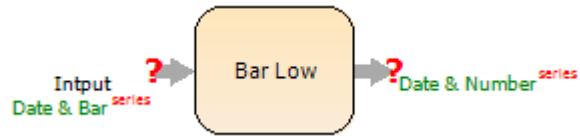
This example limits the amount of prices that are used to calculate the WatchList average to 60 bars.



The List Avg plot is only calculated on the last 60 bars of the Price History plot.



Bar Low



Description

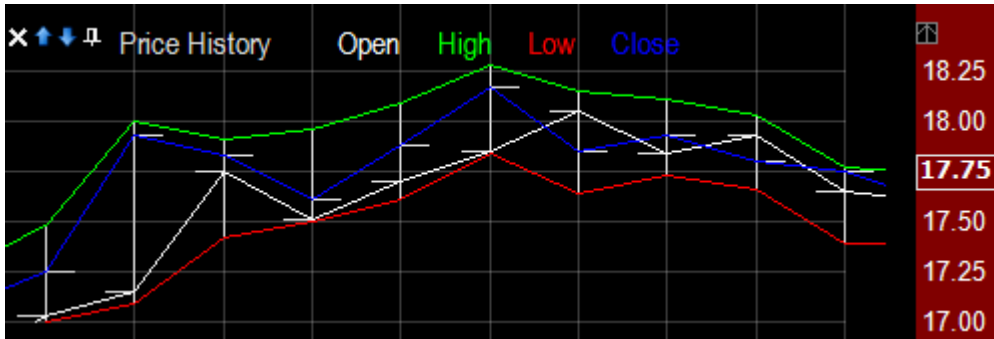
Gets the Low prices from a Date & Bar Series.

Uses:

The Bar Low block is used anytime you want to get access to the Low prices in a Date & Bar Series.

Example:

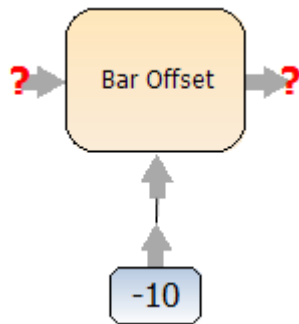
This example plots Open, High, Low and Close as individual lines overlaid on top of OHLC bars.



The Low plot above uses the Bar Low block to display the Low prices for Price History.



Bar Offset



Description

Shifts the values forward or backward in time. If the period value is positive, the line is shifted forward in time. If the period is negative the line is shifted backward in time. If the period is set to 0 the block does nothing.

Uses:

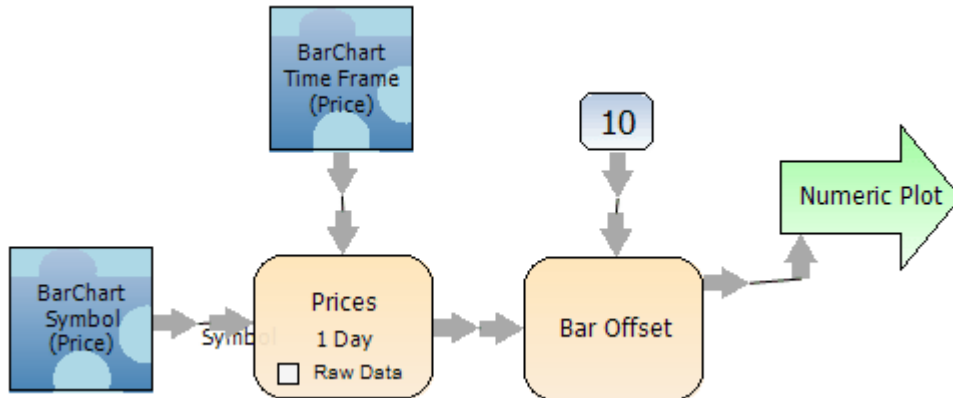
The Bar Offset block is used anytime you want to get or display data from a previous date on the current date.

Example 1:

This example takes the prices from Price History in the top pane and shifts them forward by 10 days so the prices displayed in the bottom pane are the prices from the Price History plot from 10 days ago.



In the chart above, the prices in the bottom pane are the prices from 10 days ago. The bars in the bottom pane were created using the block diagram below.



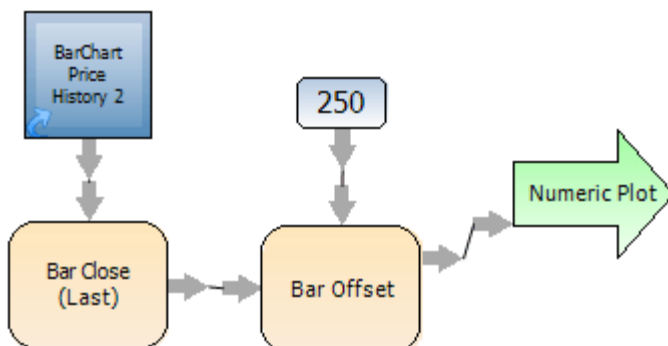
Block diagram for the Price Days Ago 10 plot above.

Example 2:

This example plots a line that is the close prices for each date 250 days (or approximately 1 year) in the past. This lets you, at a glance, compare the price today to the price 1 year ago.



The Close Days Ago Period 250 plot, is the close price 1 year ago.



Block diagram for Close Days Ago Period 250 plot above.

Bar Open



Description

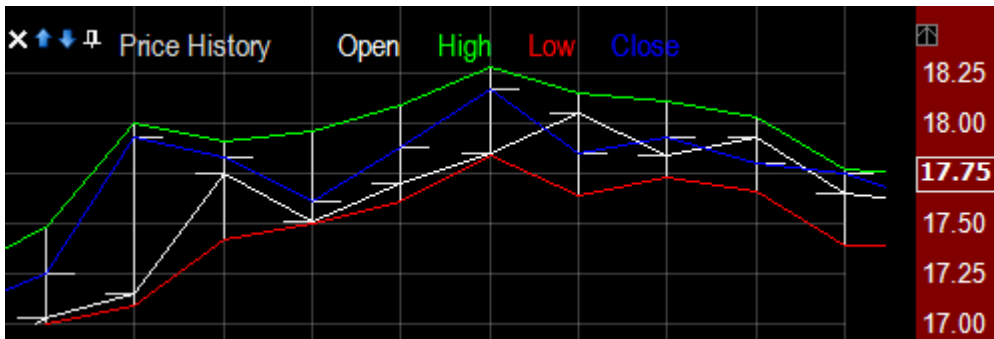
Gets the Open prices from a Date & Bar Series.

Uses:

The Bar Open (First) block is used anytime you want to get access to the open prices in a Date & Bar Series.

Example:

This example plots the Open, High, Low and Close as individual lines overlaid on top of OHLC bars.

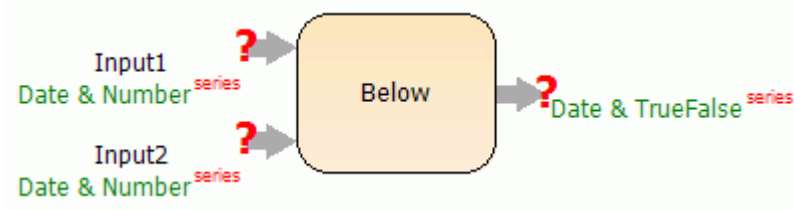


The Open plot above uses the Bar Open (First) block to display the open prices for Price History.



Block diagram for the Open plot above.

Below



Description

The Below block takes in two date/number series and returns a True for each date that Input1 is below (less than) Input 2.

Uses:

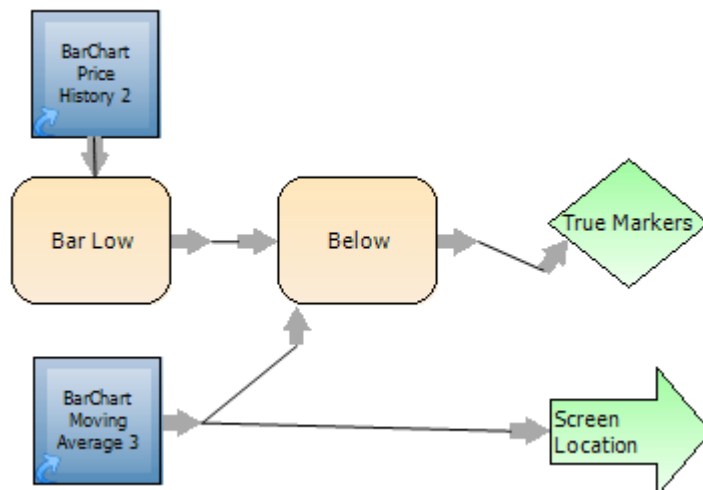
The Below block is used anytime you want to compare the values of one line to another. It has many uses including true markers on a chart, creating strategies that compare one line to another, and coloring lines.

Example 1:

The Below block can be used to plot true marker for all the days that the moving average is below the close price.



True markers on the days when the moving average is above the close.



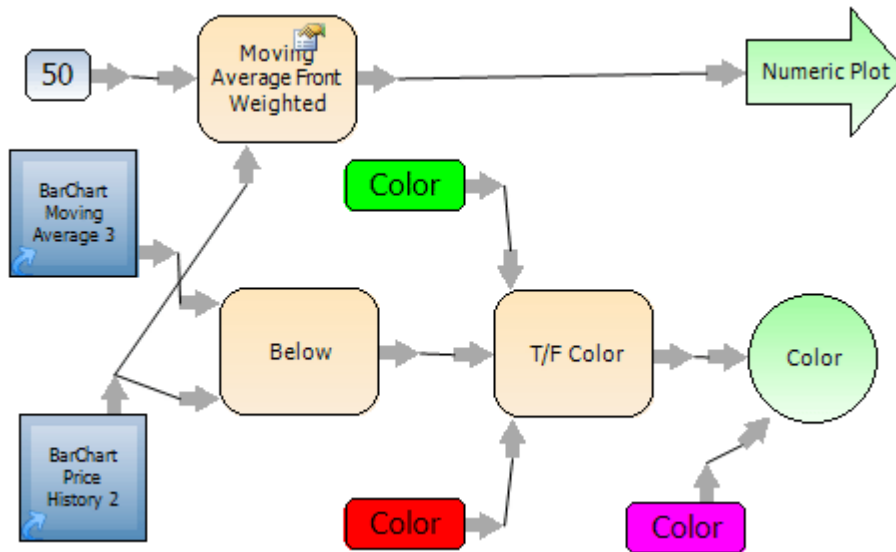
Block diagram for the example above.

Example 2:

The Below block can be used to color the moving average line green when it is below the close price.



Moving average line is green on the days that it is below the close price.



Block diagram for the example above.

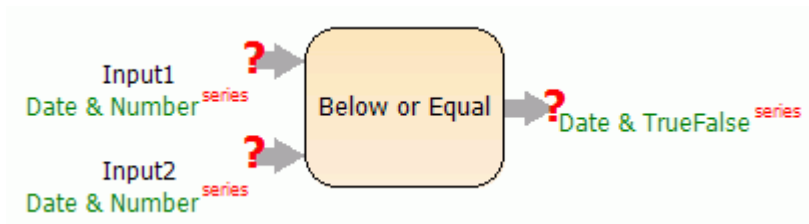
Example 3:

The Below block is often used in creating strategies. The example below places a Buy marker on the chart when the Forecast Oscillator is below its own moving average.

- Buy
- Forecast Oscillator 14, <, Avg, 3, True 1, of 1, 1 Day
- Sell
- New High 300, , True 1, of 1, 1 Day

Forecast Oscillator is compared to its own moving average using the Below block.

Below or Equal



Description

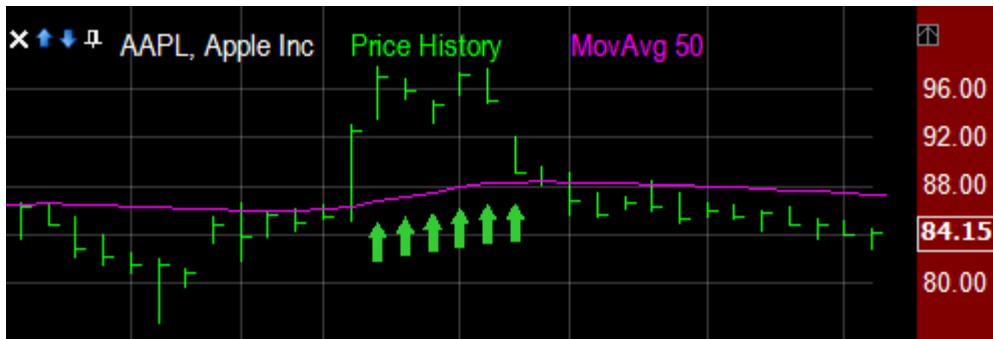
Block that compares two date/number series and returns True for each date where Input1 is less than or equal to Input2.

Uses:

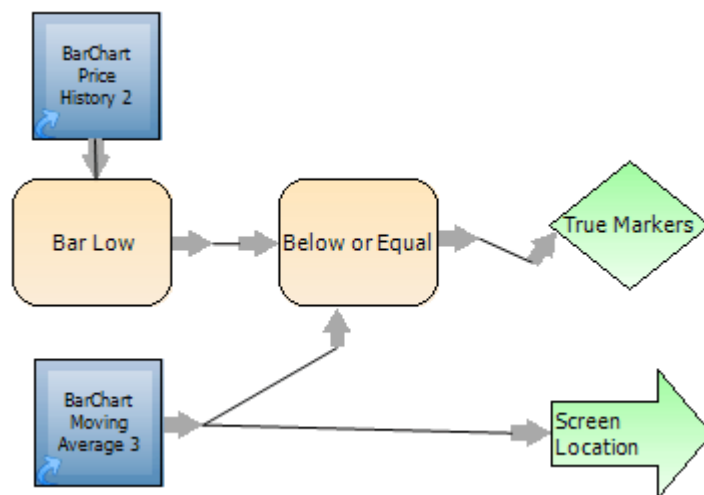
The Below or Equal block is used anytime you want to compare the values of one line to another. It has many uses including true markers on a chart, creating strategies that compare one line to another, and coloring lines.

Example 1:

The Below or Equal block can be used to plot true markers for all the days that the moving average is Below or equal to the close price.



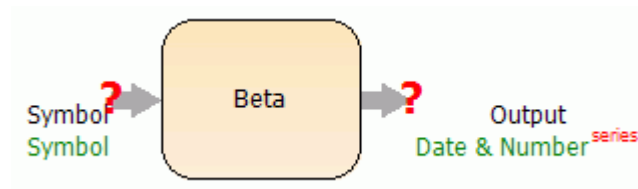
True markers on the days when the moving average is below or equal to the close.



Block diagram for the example above.

Example 2:

Beta



Description

Fundamental data block that returns the Beta value for a symbol.

Definition

The coefficient which measures the volatility of a stock's returns relative to the market (S&P 500). It is based on a 36/60-month historical regression of the return on the stock onto the return on the S&P 500:
 $R_i = a + (R_m) + e$

...where R_i is the monthly total returns on the stock, a is the stock's Alpha, R_m is the monthly total returns on the market (S&P 500), and e is a random error term. A minimum of 12 monthly returns are required for this calculation.

A beta of 1 means that the market and the stock move up or down together, at the same rate. That is, a 5% up or down move in the market should theoretically result in a 5% up or down move in the stock. A beta coefficient of 2 suggests that the stock will tend to fluctuate twice as much as the market. That is, if the market moves up 5%, then the stock should move up 10%. A beta coefficient of 0.5 indicates that the stock will move one-half as much as the market, either up or down.

A negative beta indicates the stock tends to move in the opposite direction from the general market. That is, the stock price declines when the overall market is rising, or rises when the overall market is declining. Negative beta stocks are rare.

Uses:

The Beta block can be used for a number of things including plotting the Beta Indicator on a chart or constructing strategies.

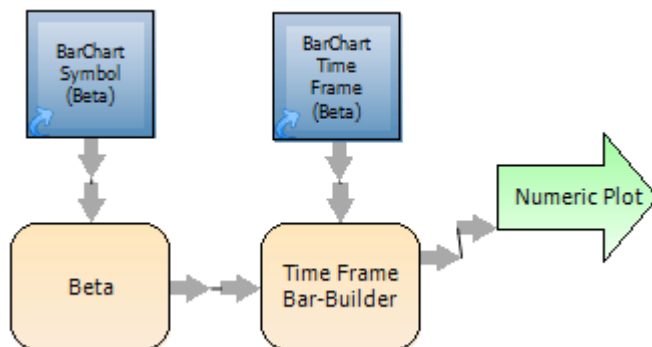
Example:

The example below is a plot of the Beta indicator on a chart.

See also the [Beta](#) indicator.

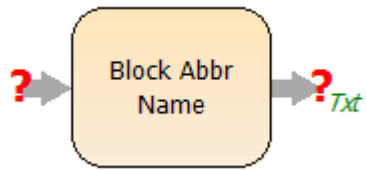


The Beta plot on the bottom pane uses the Beta block to draw the Beta indicator on the chart.



This block diagram is for the Beta plot in the chart above.

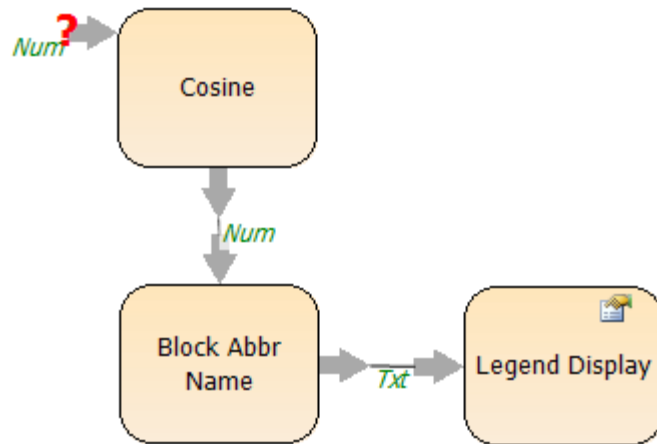
Block Abbr Name



Description

Returns the abbreviated name for the connected block.

Example



The example above displays the Cosine block's abbreviated name in a legend.

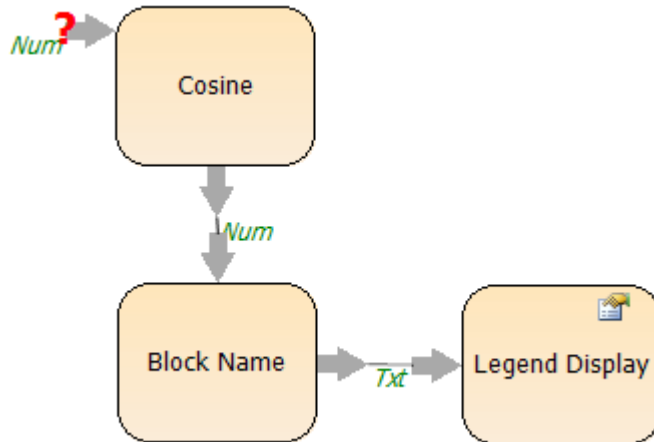
Block Name



Description

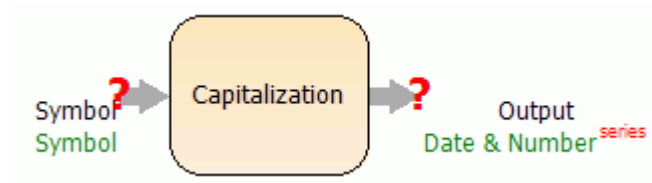
Returns the the block name for the connected block.

Example



The example above displays the Cosine block's name in a legend.

Capitalization



Description

Fundamental data block that returns the Capitalization value for a symbol.

Definition

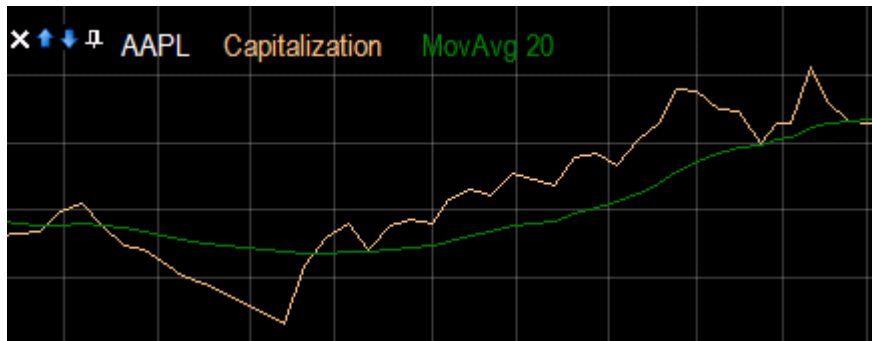
This is the latest closing price of a share times the number of shares outstanding as indicated in the latest quarterly report. Sometimes called Market Valuation.

Uses:

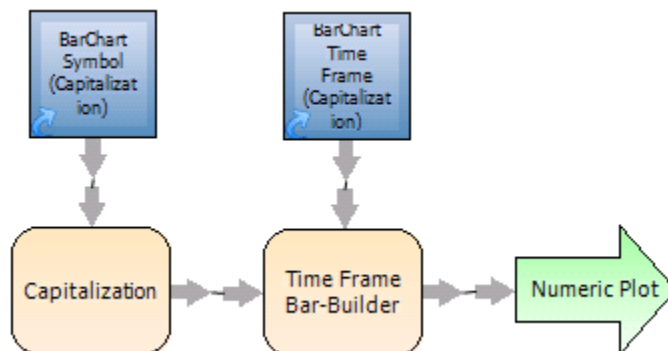
The Capitalization block is used to plot the Capitalization fundamental indicator.

Example:

The following example is the Capitalization Personal Chartist Study. It plot the Capitalization for the bar chart symbol.



The Capitalization plot above uses the Capitalization block to plot the indicator.

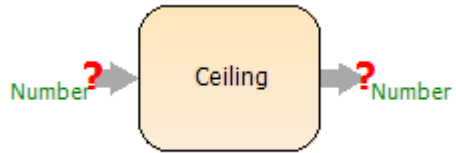


Block diagram for the Capitalization plot above.

Ceiling

Description

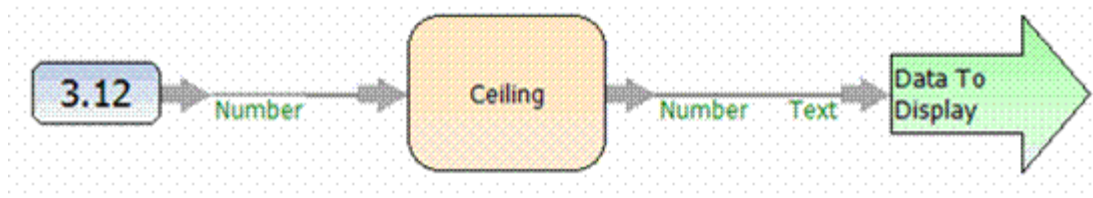
Returns the ceiling of the Number provided.



Definition

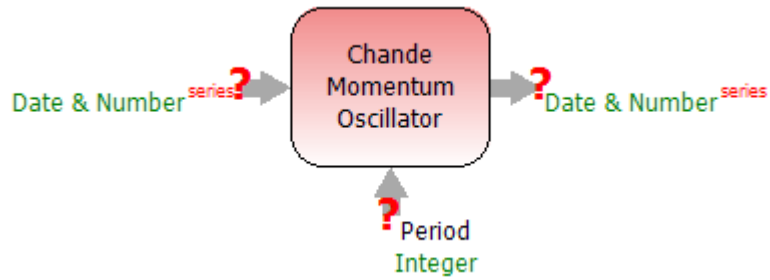
Ceiling is a statistical function that returns the smallest integer greater than or equal to a number. In other words, it rounds up to the nearest integer. The ceiling of 5.1 is 6; the ceiling of 3 is 3.

Example



The example above will display the number 4 since it is the ceiling of 3.12.

Chande Momentum Oscillator



Description

Returns the Chande Momentum Oscillator for the period provided.

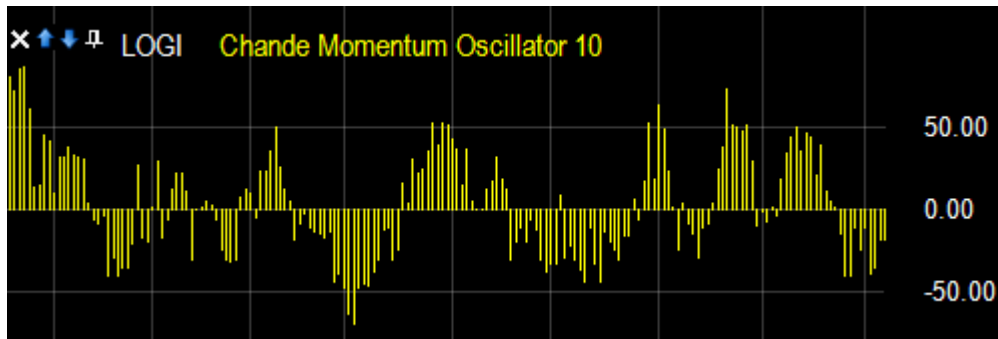
See also the [Chande Momentum Oscillator](#) indicator.

Uses:

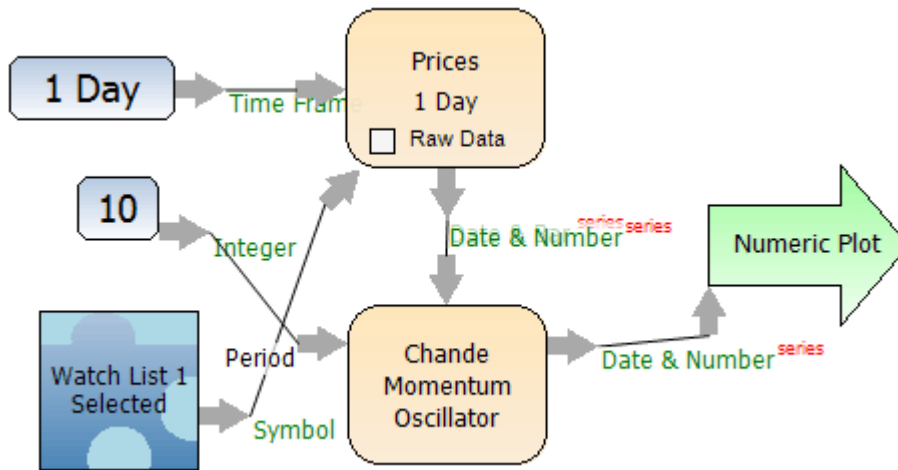
The Chande Momentum Oscillator block is used to calculate the Chande Momentum Oscillator indicator.

Example:

The following example plots a 10 day Chande Momentum Oscillator of daily prices for the selected WatchList symbol.



The Chande Momentum Oscillator 10 plot above uses the Change Momentum Oscillator block to plot the Chande Momentum Oscillator study.



Block diagram for the Chande Momentum Oscillator 10 plot in the chart above.

Source Code

```

<WBIGuid("754f1257-f6bb-4a7d-842b-5e87e0e5a781"),FriendlyName("Chande Momentum Oscillator"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Chande Momentum Oscillator indicator for
the period provided.", "10/18/2006")> _
Public Class ChandeMomentumOscillator
inherits BaseTemplateDLStoDLSPeriod
'Version 1.04
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
'
' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.
' You are licensed to use this source code for your own private use.
' It may not be re-distributed or sold without express permission
' from Worden Brothers, Inc..
'
'
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.Blocks.com And search for "Chande Momentum Oscillator."
'
' Changes
' 1.04 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim upDifSum As Single = 0
Dim downDifSum As Single = 0
Dim divisor As Single

Dim Period As Integer
Period = ParameterValue
  
```

```

If Period < 1 Then Period = 1
If Period > InputCount - 2 Then Period = InputCount - 2

For i As Integer = Period To InputCount - 1

'calculate the sum of differences for Updays and Downdays
For y As Integer = (i - Period + 1) To i
If InputValue(y) > InputValue(y-1) Then
    upDifSum += InputValue(y)-InputValue(y-1)
Elseif Me.CodeBlock.InputValue(y) < Me.InputValue(y-1) Then
    downDifSum += InputValue(y-1) - InputValue(y)
End If
Next

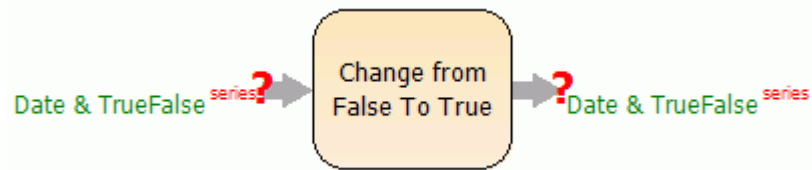
divisor = upDifSum + downDifSum
If divisor = 0 Then divisor = 1

AddToOutput(InputDate(i), ((upDifSum-downDifSum)/divisor)*100)

upDifSum = 0
downDifSum = 0
Next
End Sub
End Class

```

Change from False to True



Description

Returns True if the previous date was false and the current date is true.

Uses:

The Change from False To True block and the Change from True to False block are used to place markers only when there is a change from one conditional to another. This is nice if you have a condition that you want to place markers on the chart for but you don't necessarily want a marker on each and every day it happens. You only want a marker placed when either the condition starts or stops. See the Example below.

Example:

The following example illustrates the advantage of using the Change from True to False block and the Change from False to True block in certain situations. Figure 1 below shows how cluttered the chart can be if you place True markers for every day that the close is greater than the moving average. A 'cleaner' way to illustrate the same information is to create just one true marker when the condition is met, and one True marker when the condition ends as in Figure 3.



Figure 1. The chart is cluttered with several True markers for the condition.

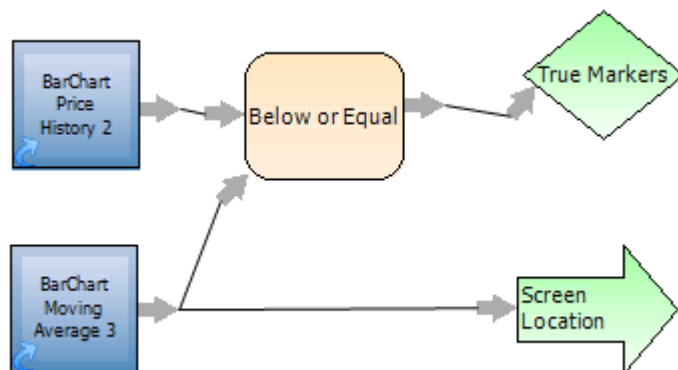


Figure 2. Block diagram for the True Markers in the chart above.



Figure 3. The chart is less cluttered when you only draw a True marker when the condition stops and starts.

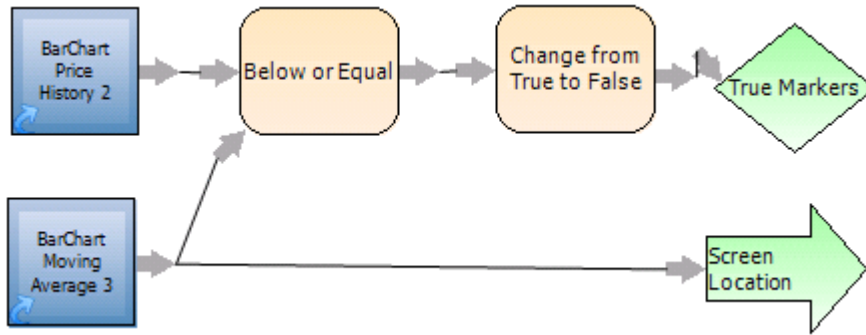


Figure 4. Block diagram for the red True markers in the chart above.

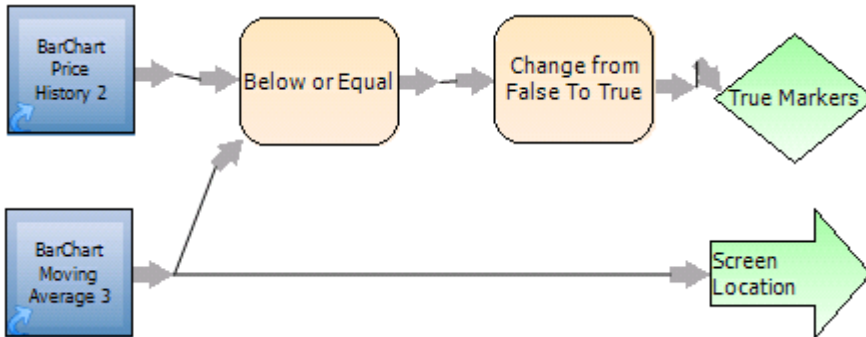
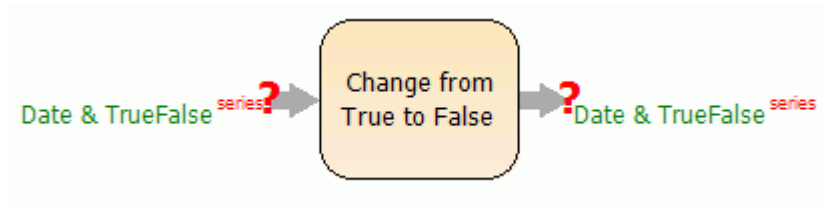


Figure 5. Block diagram for the green True markers in the chart above.

Change from True to False



Description

Returns True if previous date in series is true and current date in series is false.

Uses:

The Change from True To False block and the Change from False to True block are used to place markers only when there is a change from one conditional to another. This is nice if you have a condition that you want to place markers on the chart for but you don't necessarily want a marker on each and every day it happens. You only want a marker placed when either the condition starts or stops. See the Example below.

Example:

The following example illustrates the advantage of using the Change from True to False block and the Change from False to True block in certain situations. Figure 1 below shows how cluttered the chart can be if you place True markers for every day that the close is greater than the moving average. A 'cleaner' way to illustrate the same information is to create just one true marker when the condition is met, and one True marker when the condition ends as in Figure 3.



Figure 1. The chart is cluttered with several True markers for the condition.

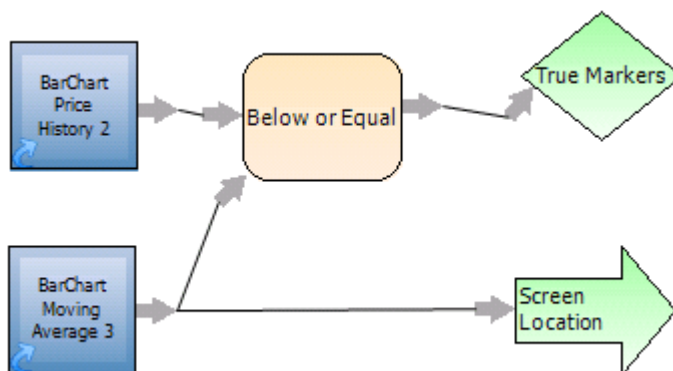


Figure 2. Block diagram for the True Markers in the chart above.



Figure 3. The chart is less cluttered when you only draw a True marker when the condition stops and starts.

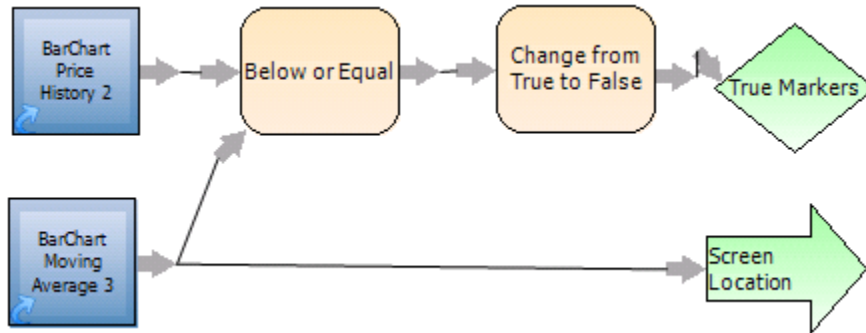


Figure 4. Block diagram for the red True markers in the chart above.

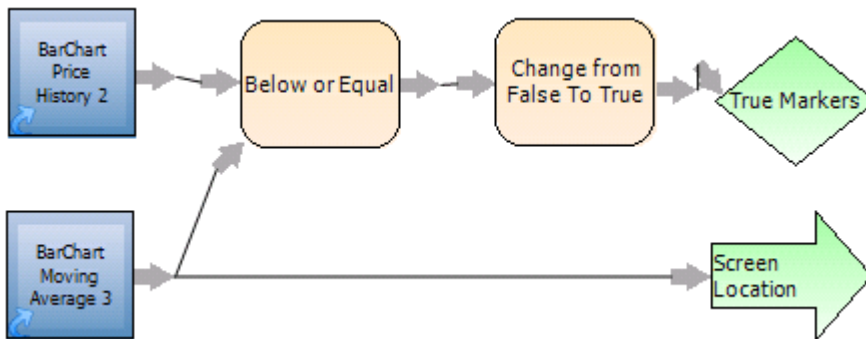
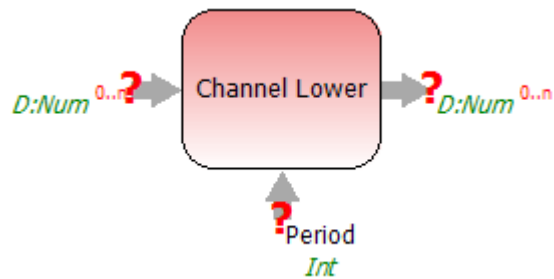


Figure 5. Block diagram for the green True markers in the chart above.

Channel Lower



Description

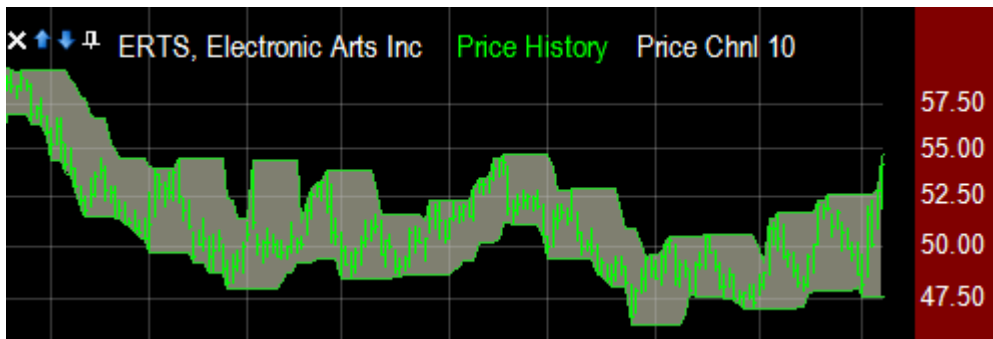
Provides the lower line for the Price Channel Indicator for the period provided. The line that the Channel Lower block provides is the lowest value for the period.

Uses:

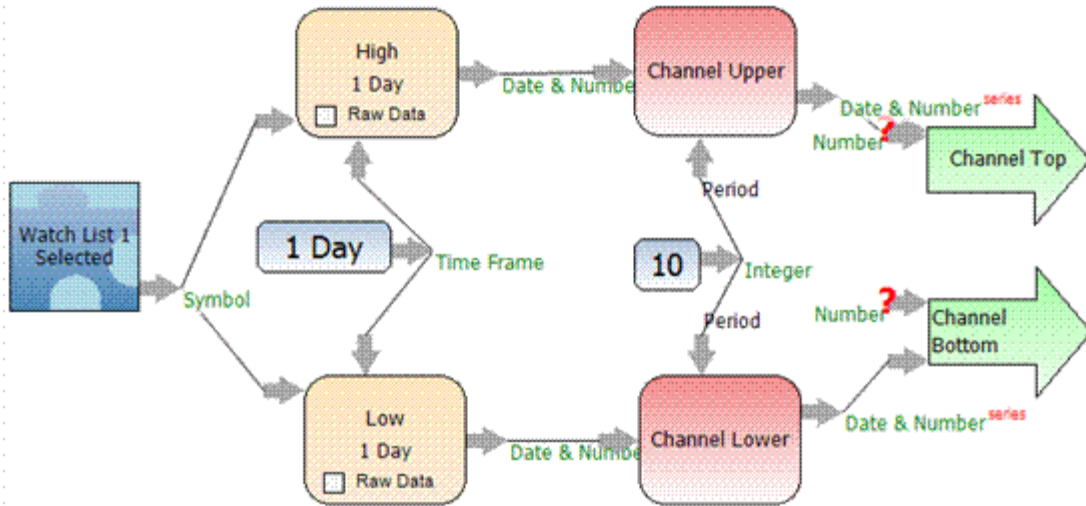
The Channel Lower block in conjunction with the Channel Upper block is used to plot the Price Channel indicator on a chart.

Example

The following example plots a Price Channel on a chart. The Channel Upper block returns the highest High price in the last 10 days for each point on the line. The Channel Lower block returns the lowest Low price in the last 10 days for each point on the line.



The Price Chnl 10 plot above uses the Channel Upper and Channel Lower blocks to draw a Price Channel that is the highest High and Lowest Low for the 10 day period.



Block diagram for the Price Chnl 10 plot in the chart above.

Source Code

```
<WBIGuid("715d7592-0a7d-4a16-992c-9627f72fcc33"),FriendlyName("Channel Lower"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the lower line for the Price Channel Indicator for
the period provided.", "10/18/2006")> _
Public Class PriceChannelLower
inherits BaseTemplateDLStoDLSPeriod
'Version 1.02
Public Overrides Sub calculate()
```

```
-----
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
```

```
' For the source code and more information on this block go to
' kb.worden.com And search for "Price Channel Lower."
```

```
' Changes
' 1.02 - Added If inputcount < 2 Then Exit Sub
```

```
-----
If inputcount < 2 Then Exit Sub
```

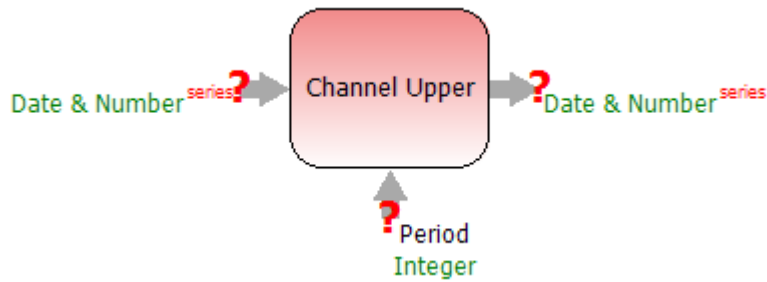
```
Dim low As Single = 0
Dim Period as integer = me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
if Period > me.CodeBlock.InputCount - 2 then Period = me.CodeBlock.InputCount - 2
```

```
For i As Integer = Period - 1 To Me.CodeBlock.InputCount - 1
    low = Me.CodeBlock.InputValue(i)

    For y As Integer = i - Period To i
        If Me.CodeBlock.InputValue(y) < low And Not Me.codeblock.inputvalue(y) = 0 Then low =
Me.CodeBlock.InputValue(y)
    Next

    Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), low)
Next
End Sub
End Class
```

Channel Upper



Description

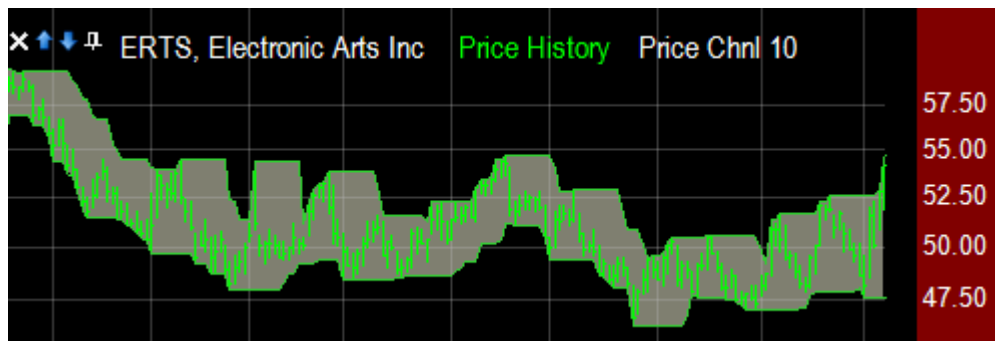
Provides the upper line for the Price Channel Indicator for the period provided. The line that the Channel Upper block provides is the highest value for the period.

Uses:

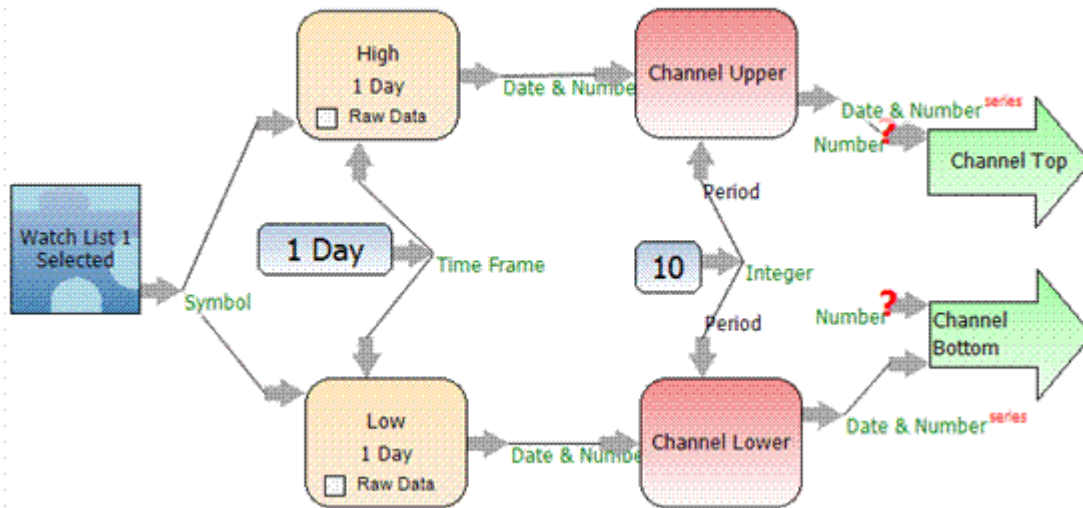
The Channel Upper block in conjunction with the Channel Lower block is used to plot the Price Channel indicator on a chart.

Example

The following example plots a Price Channel on a chart. The Channel Upper block returns the highest High price in the last 10 days for each point on the line. The Channel Lower block returns the lowest Low price in the last 10 days for each point on the line.



The Price Chnl 10 plot above uses the Channel Upper and Channel Lower blocks to draw a Price Channel that is the highest High and Lowest Low for the 10 day period.



Block diagram for the Price Chnl 10 plot in the chart above.

Source Code

```

<WBIGuid("8bc30c1e-97e7-40a1-b3ee-8af8017f19b8"),FriendlyName("Channel Upper"), _
  ClassAuthor("The Blocks Company,LLC - JK", "Provides the upper line for the Price Channel indicator for
the period provided.", "10/18/2006")> _
Public Class PriceChannelUpper
inherits BaseTemplateDLStoDLSPeriod
'Version 1.02
Public Overrides Sub calculate()
'-----
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Price Channel Upper."
'
' Changes
' 1.02 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim high As Single = 0
Dim Period as integer = me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
if Period > me.CodeBlock.InputCount - 2 then Period = me.CodeBlock.InputCount - 2

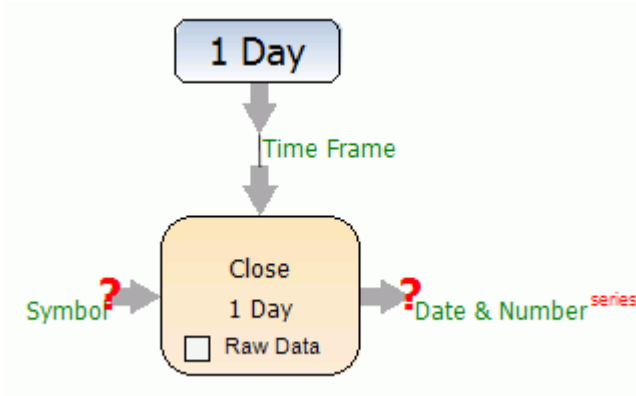
```

```
For i As Integer = Period - 1 To Me.CodeBlock.InputCount - 1
  high = 0

  For y As Integer = i - (Period-1) To i
    If Me.CodeBlock.InputValue(y) > high Then high = Me.CodeBlock.InputValue(y)
  Next

  Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), high)
Next
End Sub
End Class
```

Close



Description

Returns Close prices for the symbol provided for the timeframe provided. When the Raw Data checkbox is checked, the timeframe connector's incoming value is not applied to the output BUT it does effect what type of data is provided to the block itself. For instance, if you have a 1 Day block connected to the Time Frame input and the Raw Data checkbox is checked, Blocks will ensure that the data coming into the block will be able to be converted to that timeframe. This is useful if you know you need a certain type of data (i.e. daily data) for calculations farther on down in your block diagram but you don't necessarily want to display your data in that time frame right now.

Uses:

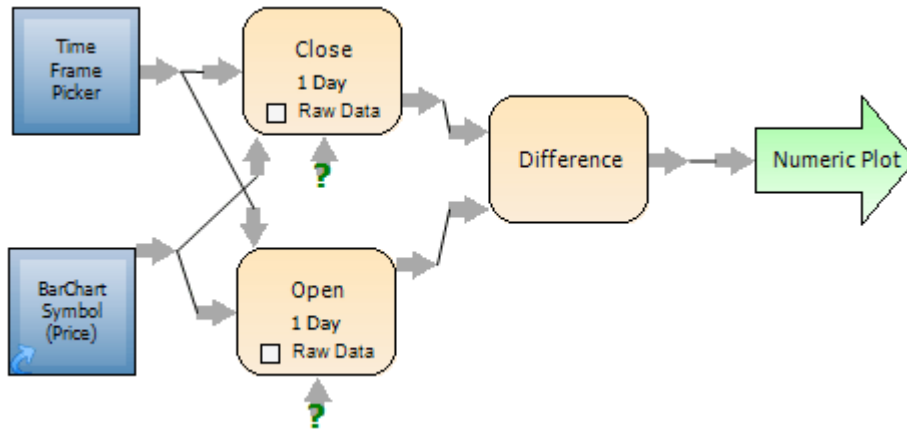
The Close block is used anytime you want to get access to the Cose prices for a symbol. Uses include studies, strategies and values in columns.

Example

The example below plots the difference between the Close price and the Open price for the Price History bar plot in the top pane.

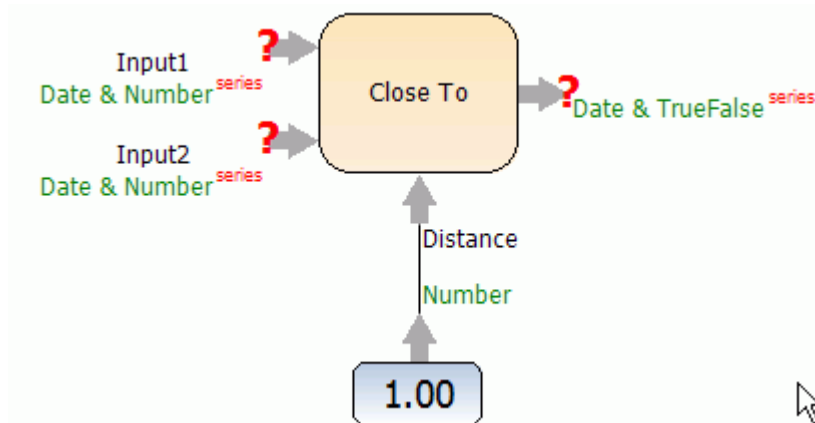


The Close minus Open plot above uses the Close block along with the Open block to show the difference of the Close minus the Open for each bar in the Price History plot in the top pane.



Block diagram for the Close minus Open plot in the bottom pane of the chart above.

Close To



Description

Returns True when Input1 is within the distance specified to Input2.

Uses:

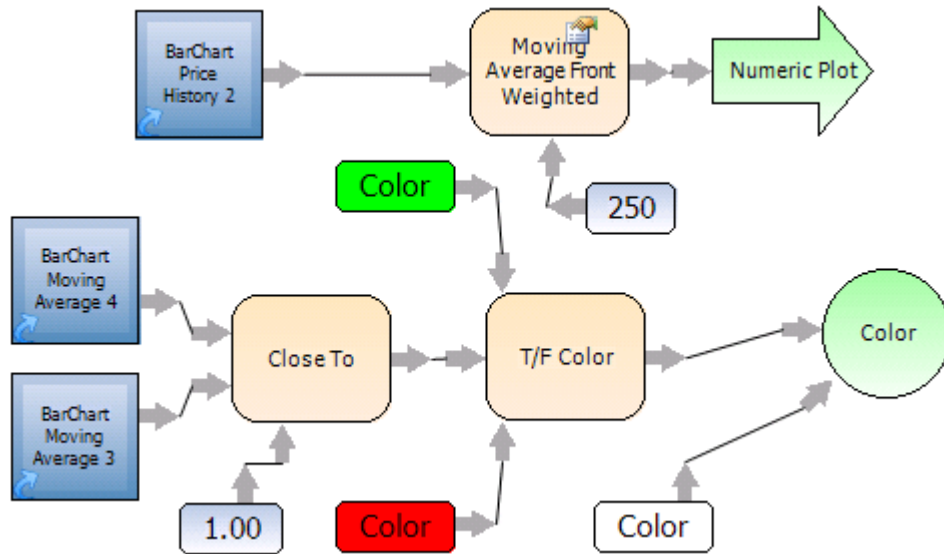
The Close To block can be used anytime you want to return True values when two lines are within a specified distance of each other. Uses include drawing true markers on a chart and coloring lines and columns.

Example:

The following example draws the MovAvg 250 plot green when it is within \$1 of the MovAvg 50 plot. Otherwise, the plot is colored red.

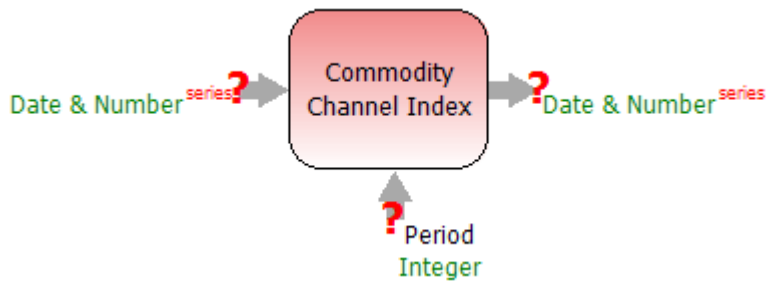


The MovAvg 250, 1.00 plot is colored green when it is within \$1 of the MovAvg 50 plot.



Block diagram for the MovAvg 250, 1.00 plot above.

Commodity Channel Index



Description

Returns the Commodity Channel Index (CCI) for the period provided.

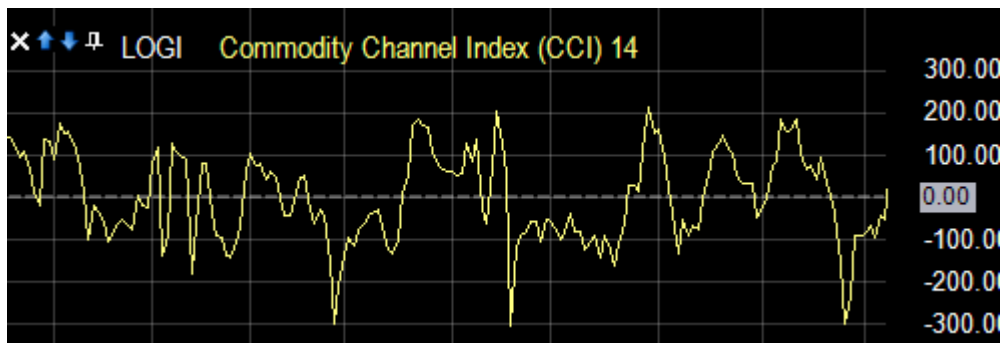
See also the [Commodity Channel Index](#) indicator.

Uses:

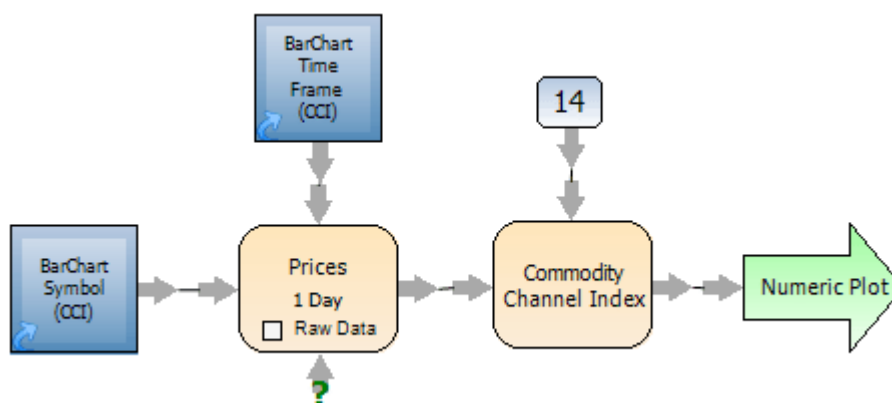
The Commodity Channel Index is used to plot the Commodity Channel Index indicator.

Example:

The following example is the Commodity Channel Index of Price Study from Personal Chartist. It uses the Commodity Channel Index block to plot the indicator.



The Commodity Channel Index (CCI) 14 plot above uses the Commodity Channel Index block to plot the indicator.



Block diagram for the Commodity Channel Index (CCI) 14 plot in the chart above.

Source Code

```
<WBIGuid("75341f81-bd49-467f-b5e5-b257c273576a"),FriendlyName("Commodity Channel Index"), _
ClassAuthor("The Blocks Company,LLC - JK", "Returns the Commodity Channel Index indicator for the
period provided.", "10/18/2006")> _
```

```
Public Class Commodity_Channel_Index
```

```
inherits BaseDLBtoDLSPeriod
```

```
'Version 1.01
```

```
Public Overrides Sub calculate()
```

```
'-----
```

```
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
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```
' PARTICULAR PURPOSE.
```

```
'
```

```
'
```

```
' For the source code and more information on this block go to
```

```
' kb.worden.com And search for "Commodity Channel Index."
```

```
'-----
```

```
Dim curTypPrice As Single
```

```
Dim curSimMA As Single
```

```
Dim sumTypPrice As Single
```

```
Dim sumDifs As Single
```

```
Dim Period as integer = Me.CodeBlock.ParameterValue
```

```
If Period < 2 Then Period = 2
```

```
If Period > inputcount - 2 Then Period = inputcount - 2
```

```
'count up the values for first period calc
```

```
For i As Integer = 0 To Period - 2
```

```
sumTypPrice += (Me.CodeBlock.InputHigh(i) + Me.CodeBlock.InputLow(i) +
```

```
Me.CodeBlock.InputLast(i))/3
```

```
Next
```

```
For i As Integer = Period - 1 To Me.CodeBlock.InputCount - 1
```

```
'calculate current Simple Moving average for period of the Typical Prices
```

```
sumTypPrice += (Me.CodeBlock.InputHigh(i) + Me.CodeBlock.InputLow(i) +
```

```
Me.CodeBlock.InputLast(i))/3
```

```
curSimMa = sumTypPrice/Period
```

```
'Loop through values in the period to find sum of differences
```

```
'between curSimMA And Each Typical Price For period
```

```
sumDifs = 0
```

```
For y As Integer = (i - (Period - 1)) To i
```

```
'calc Current Typical Price
```

```
curTypPrice = (Me.CodeBlock.InputHigh(y) + Me.CodeBlock.InputLow(y) +
```

```
Me.CodeBlock.InputLast(y))/3
```

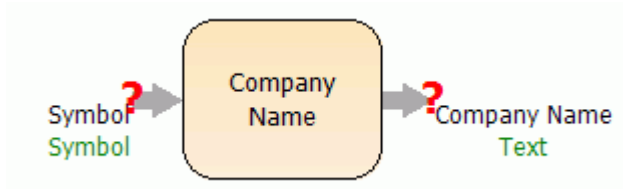
```
sumDifs += system.Math.Abs(curSimMA - curTypPrice)
```

```
Next
```

```
'Add answer to output
sumDifs = (sumDifs/Period)*0.015
If sumdifs = 0 Then sumdifs = 1
Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), (curTypPrice - curSimMA)/sumdifs)

sumTypPrice -= (Me.CodeBlock.InputHigh(i - (Period-1)) + _
  Me.CodeBlock.InputLow(i - (Period-1)) + _
  Me.CodeBlock.InputLast(i - (Period-1)))/3
Next
End Sub
End Class
```

Company Name



Description

Provides the company name for the specified symbol.

Uses:

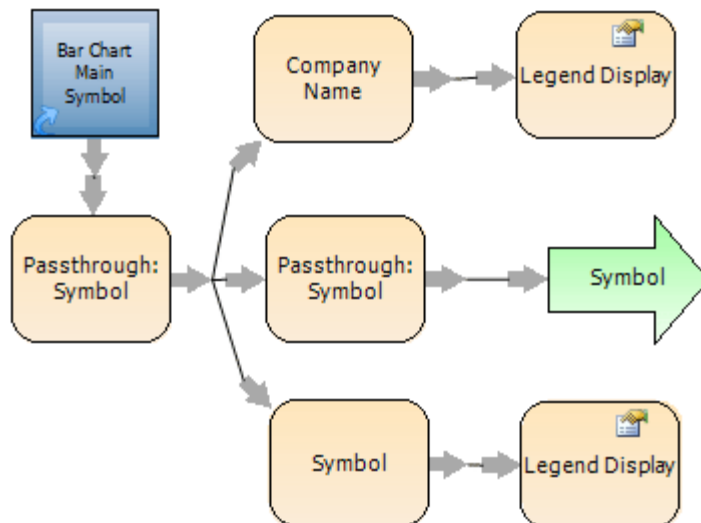
The Company Name block is used anytime that you want to get the Company Name as text. Uses include adding the company name to a legend display.

Example:

The following example is the symbol and company name display on the chart in Personal Chartist.

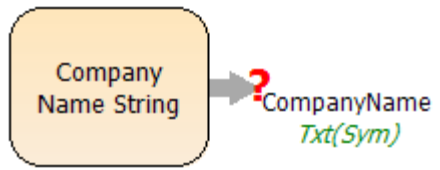


The chart above is from Personal Chartist. The company name in the upper left is generated using the Company Name block.



Block diagram for the symbol and company name legend display in the chart above.

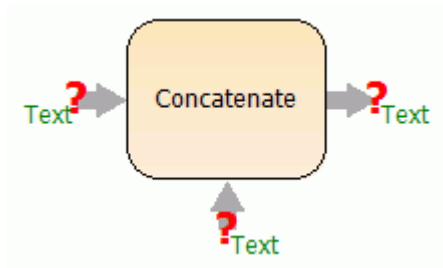
Company Name String



Description

Returns the Company Name for a Symbol.

Concatenate



Description

Concatenates (combines) two text strings.

Uses:

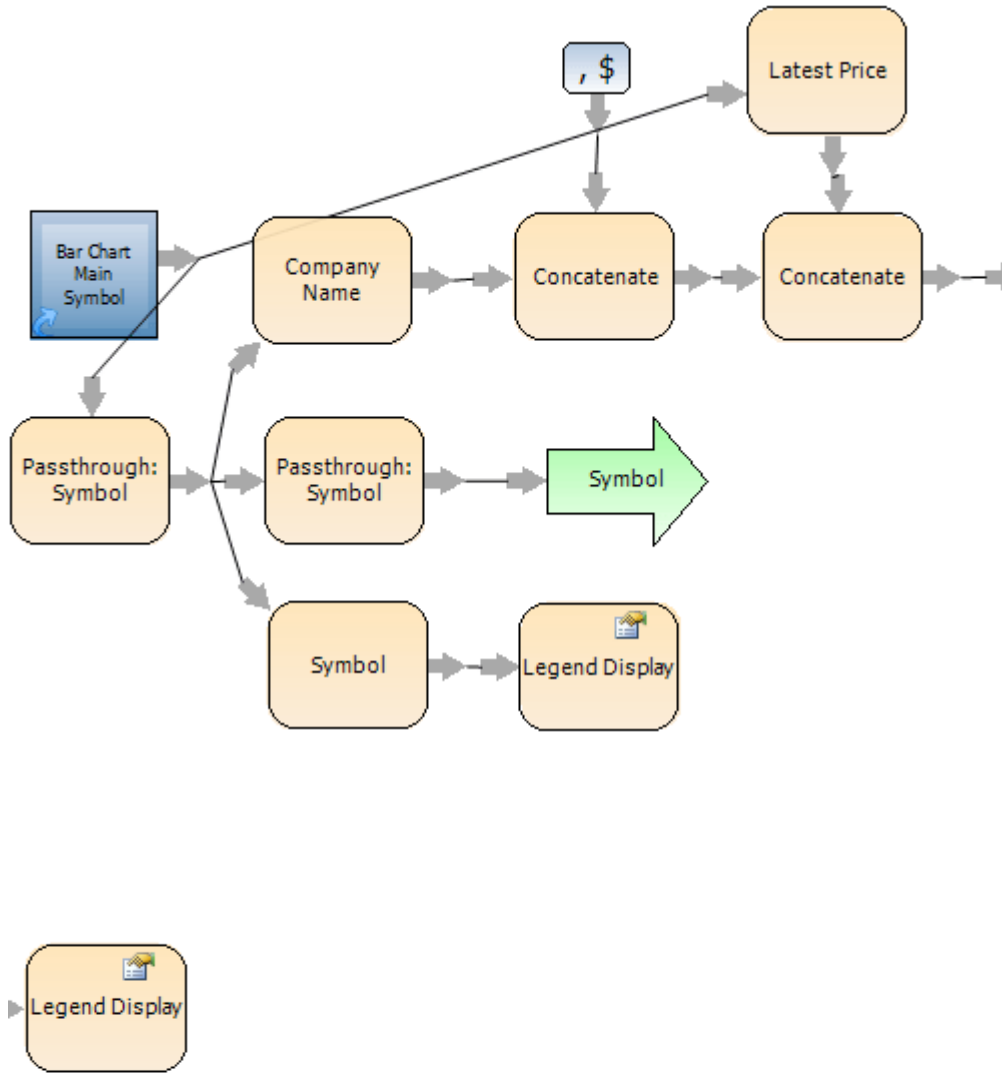
The Concatenate block is used when you want to combine two text strings into one text string. Uses include creating text strings for display in a legend display.

Example:

The following example is a modification of the symbol and company name display from Personal Chartist. Using two Concatenate blocks, the strings ", \$" and current price are added onto the company name string.

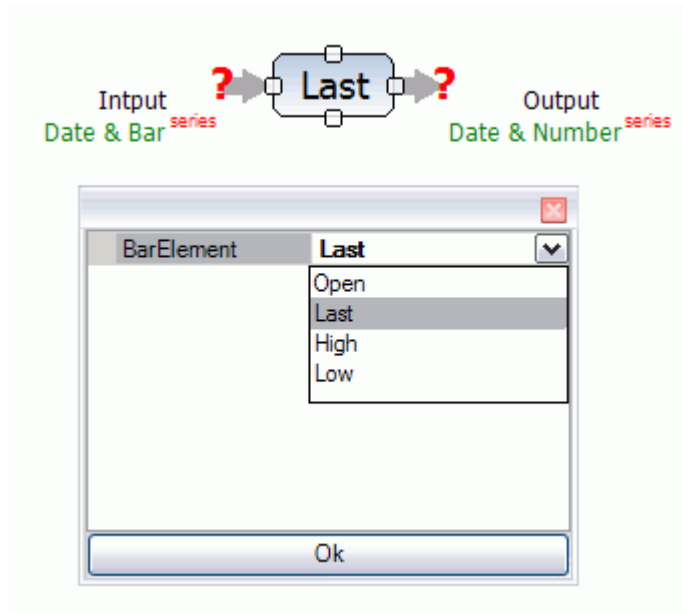


The chart above is from Personal Chartist. The symbol and company name legend display has been modified to display the current price as well.



This block diagram is the modified legend display from Personal Chartist. It adds the current price to the legend display.

Convert: Bar to Number



Description

Converts a Date Bar series to a Date Number Series. By double-clicking on the block in the diagram, you can choose which element of the bar data you want to pass on as a Date & Number Series.

Uses:

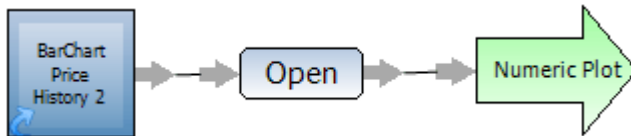
The Convert Bar to Number block is used anytime that you want to extract one of the 4 values from a bar, either the Open, High, Low or Close. For instance, it allows you to add a study like Aroon to the High price of a bar instead of the default Close price. Other uses include creating studies, strategies, values in a column and coloring of lines, columns and other widgets.

Example 1:

The following example splits out the four price in each bar into separate line plots.



The Open, High, Low and Close plots above use the Convert: Bar to Number block to display the separate values of the Price History bars as separate line plots.



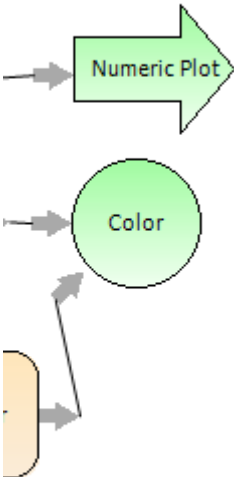
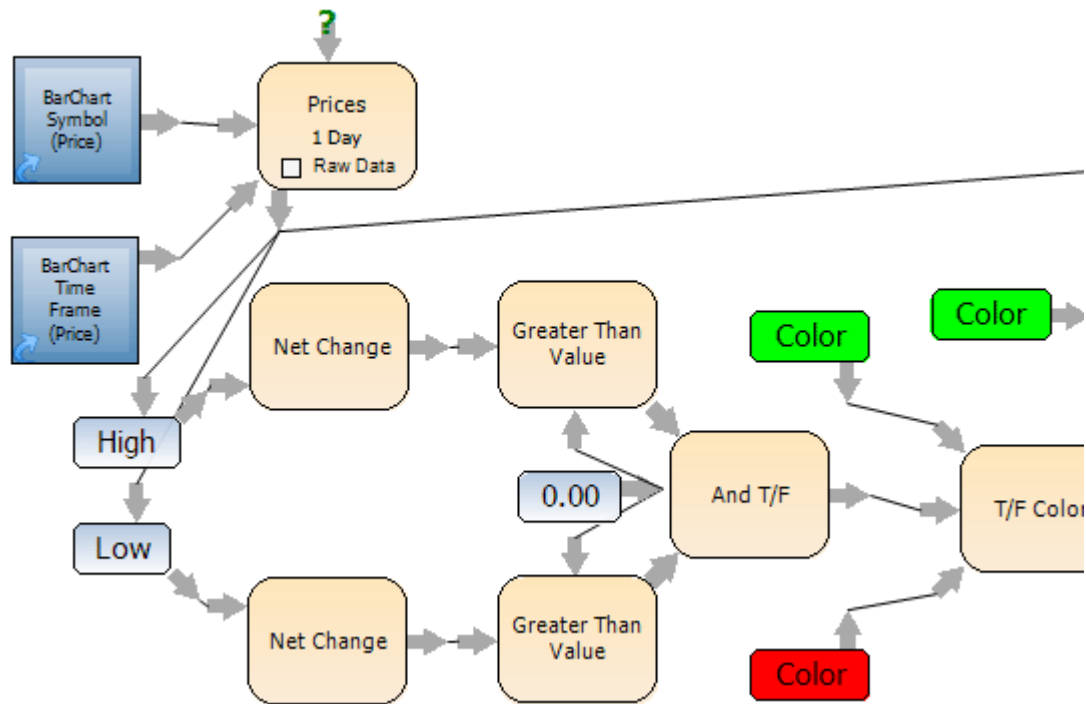
Block diagram for the Open plot above. The High, Low and Close plots above are the same except that the Convert: Bar to Number block has been set to extract the High, Low and Close prices respectively.

Example 2:

The following example uses 2 Convert: Bar to Number blocks to color the Price History bars green if both the High price and the Low price are greater than the prior bar's High and Low prices. Otherwise, the bar is colored red.



The Price History Plot above is colored green if both the High and Low prices are greater than the prior bar's High and Low prices.



Block diagram for the Price History plot in the chart above.

Example 3:

The following example is a variation on the Forecast vs. Moving Average Study from Personal Chartist. I added the Convert: Bar to Number block between the Prices block and the Forecast Oscillator block and set it to provide the High price. Normally when the Price block is fed directly into the Forecast Oscillator block the Forecast Oscillator uses the Close price for its calculation.

Buy +

Forecast Oscillator of High 14, <, Avg, 3, True 1, of 1, 1 Day

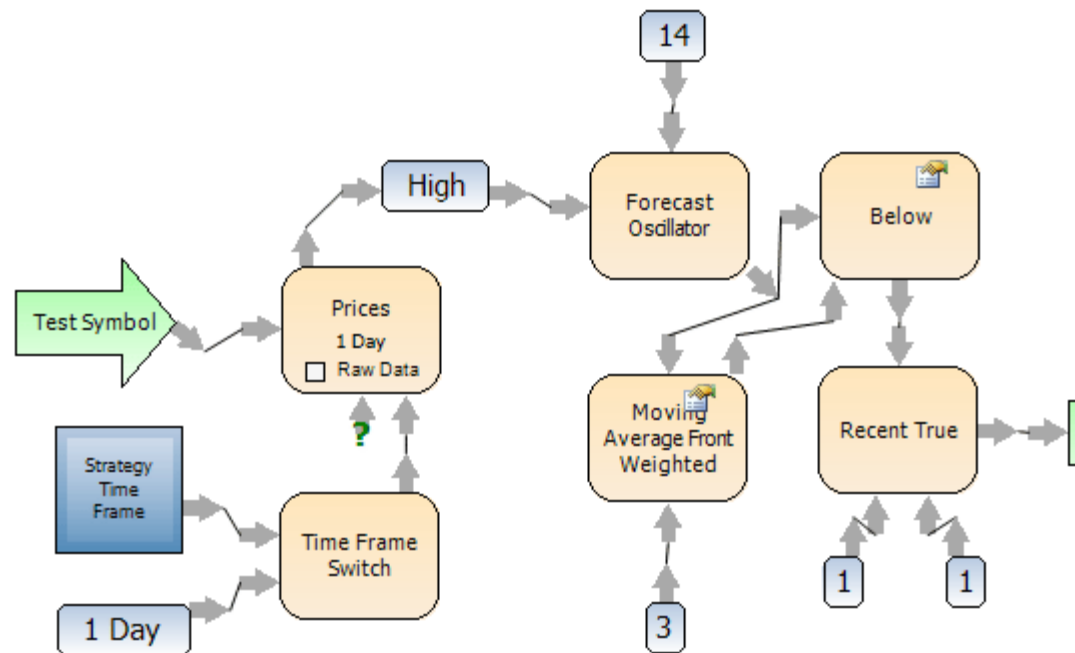
Sell +

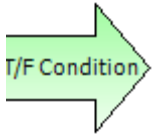
New High 300, , True 1, of 1, 1 Day

The Forecast Oscillator of High strategy calculates the Forecast Oscillator using the High prices instead of the default Close prices.



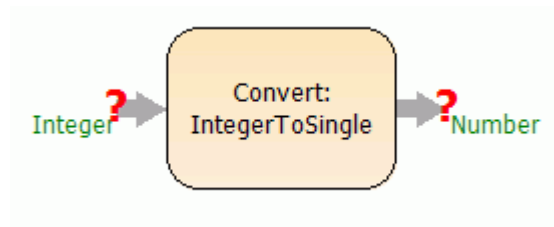
A Buy marker is placed on the chart when the Forecast Oscillator of the High price is below its own moving average. A Sell marker is then placed when a new 300 day high is reached.





Block diagram for the Forecast Oscillator of High strategy above.

Convert: Integer to Single



Description

Converts an integer into a single.

Convert: Single to Integer



Description

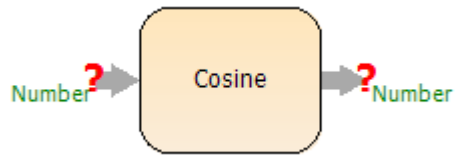
Converts a Single to an Integer using bankers rounding.

Banker's Rounding

When you add rounded values together, always rounding .5 in the same direction results in a bias that grows with the more numbers you add together. One way to minimize the bias is with banker's rounding.

Banker's rounding rounds .5 up sometimes and down sometimes. The convention is to round to the nearest even number, so that both 1.5 and 2.5 round to 2, and 3.5 and 4.5 both round to 4. Banker's rounding is symmetric. (Source: <http://support.microsoft.com/kb/196652>)

Cosine



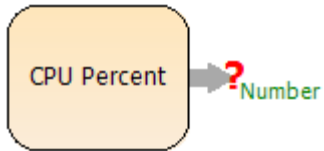
Description

Returns the cosine of the number provided. For more information on the Cosine function go [here](#).

Uses:

The Cosine Block is used anytime you need to calculate the cosine of a number.

CPU Percent



Description

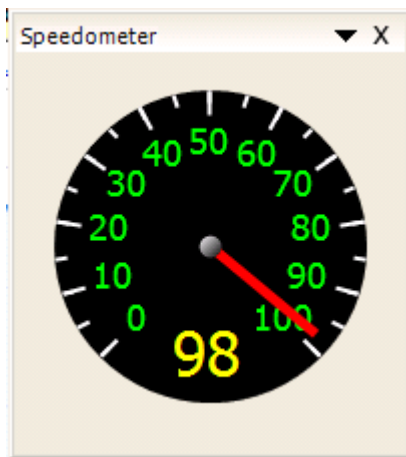
Returns the amount of CPU cycles used by Blocks as a percentage of the total available CPU cycles.

Uses:

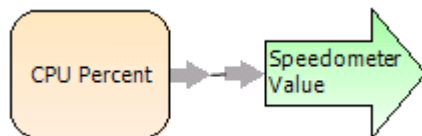
The CPU Percent block can be used to display what percentage of the CPU is being used at the current time. This information can be displayed in different ways including a Data Display in a legend, an LED Display widget, and a Speedometer widget.

Example:

The following example uses the Speedometer widget to display the current CPU usage.

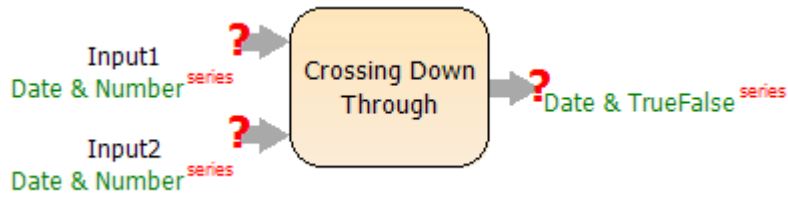


The Speedometer widget is used to display the current CPU usage.



Block diagram for the Speedometer widget above.

Crossing Down Through



Description

Returns True when Input1 crosses down through Input2.

Uses:

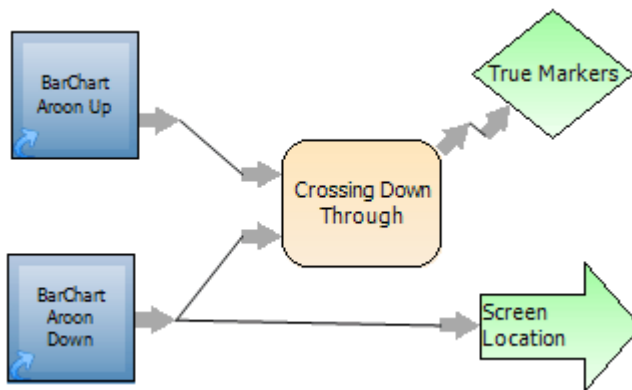
The Crossing Down Through block is used anytime you want to find the point where one line crosses down through another. It has many uses including markers on a chart, and creating strategies.

Example 1:

The Crossing Down Through block can be used to place markers on a chart where Aroon Up is crossing down through Aroon Down.



A marker is placed on the chart at the point where Aroon Down crosses up through Aroon Down.



Block diagram for example above.

Example 2:

The Crossing Down Through block is often used in creating strategies. The example below places a Buy marker on the chart when Aroon Up crosses down through Aroon Down.

Buy +

Aroon Up 14, xDn, Aroon Down 14, True 1, of 1, 1 Day

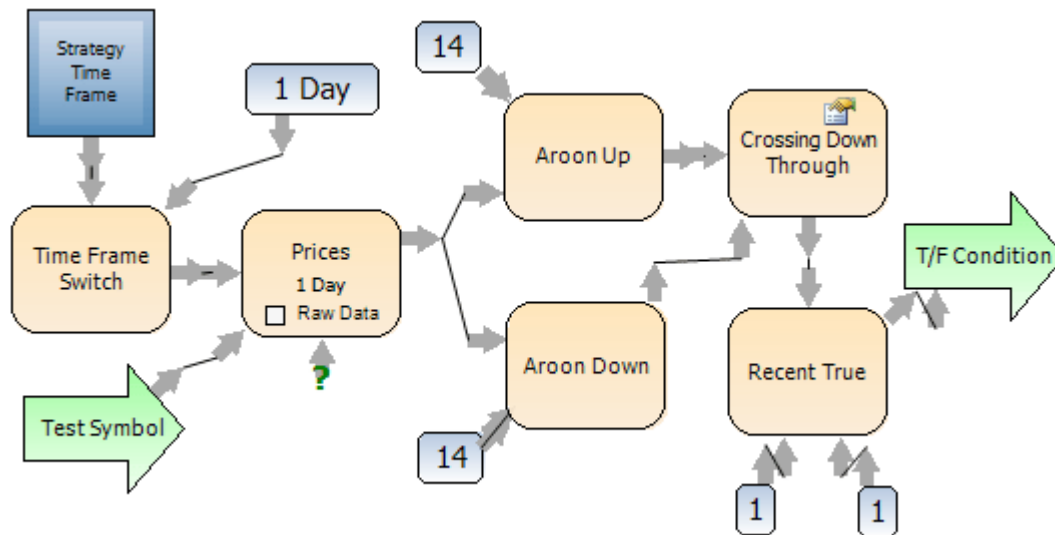
Sell +

New High 300, , True 1, of 1, 1 Day

Buy strategy places a Buy marker when Aroon Up crosses down through Aroon Down.

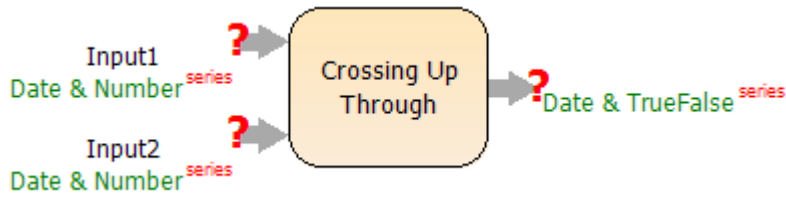


A Buy marker is placed on the day that Aroon Up crosses down through Aroon down. A Sell marker is then placed when a stock hits a new 300 day high.



Block diagram for the example above.

Crossing Up Through



Description

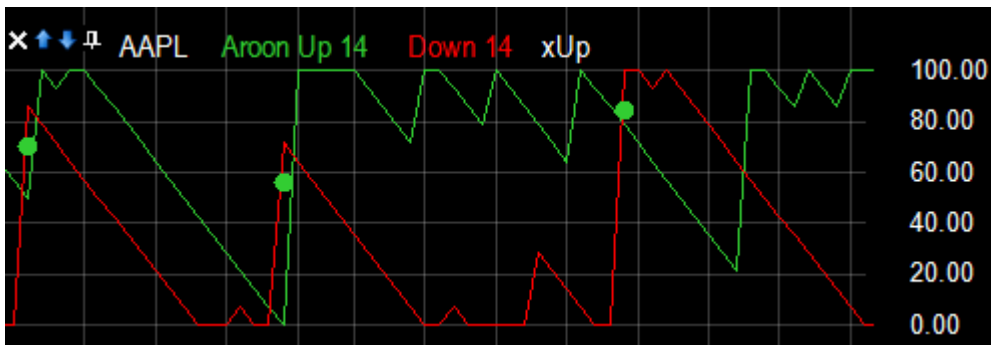
Returns true when Input1 crosses up through Input2.

Uses:

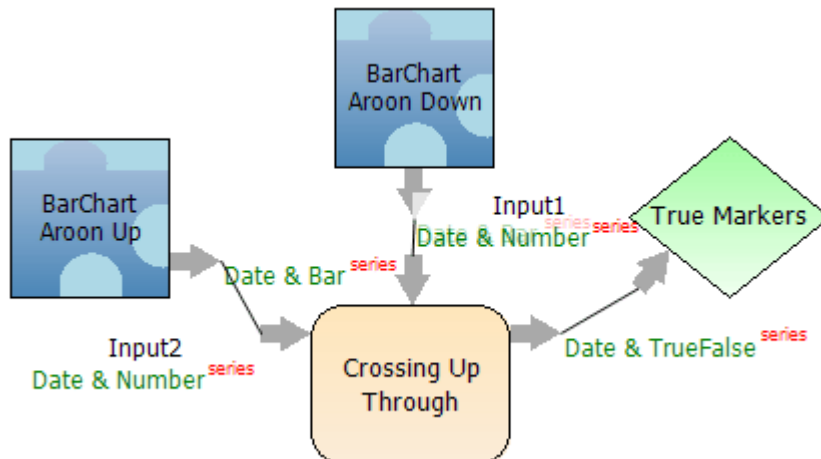
The Crossing Up Through block is used anytime you want to find the point where one line crosses up through another. It has many uses including markers on a chart, and creating strategies.

Example 1:

The Crossing Up Through block can be used to place markers on a chart where Aroon Down is crossing up through Aroon Up.




A marker is placed on the chart at the point where Aroon Down crosses up through Aroon Down.



Block diagram for the example above.

Example 2:

The Crossing Up Through block is often used in creating strategies. The example below places a Buy marker on the chart when Aroon Up crosses up through Aroon Down.

Buy 

Aroon Up 14, xUp, Aroon Down 14, True 1, of 1, 1 Day

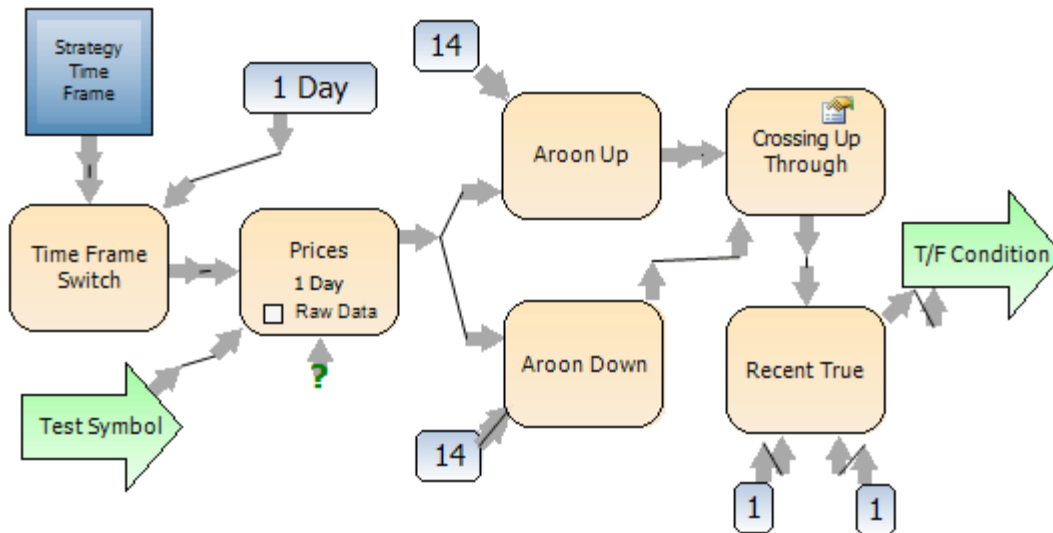
Sell 

New High 300, , True 1, of 1, 1 Day

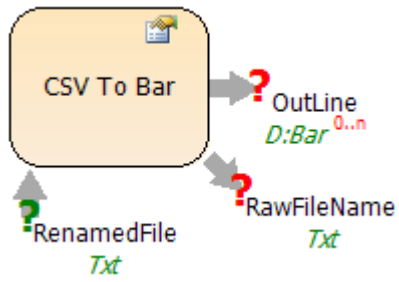
Buy strategy places a Buy marker when Aroon Up crosses up through Aroon Down.



A Buy marker is placed on the day that Aroon Up crosses up through Aroon down. A Sell marker is then placed when a stock hits a new 300 day high.



CSV To Bar

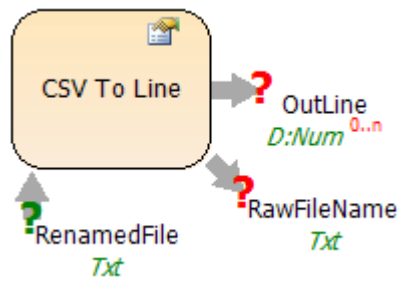


Description

Reads A CSV File and returns a Date & Bar series.

See also the video ["Import Custom Data With .CSV Reader Blocks."](#)

CSV To Line

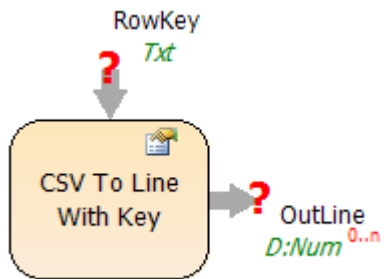


Description

Reads A CSV File and returns a Date & Number series.

See also the video "[Import Custom Data With .CSV Reader Blocks.](#)"

CSV To Line With Key

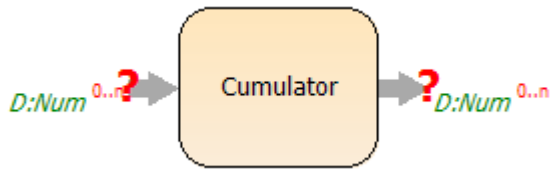


Description

Reads A CSV File with a Key and line data (Key,Date,Value), and outputs a Date & Number series.

See also the video ["Import Custom Data With .CSV Reader Blocks."](#)

Cumulator



Description

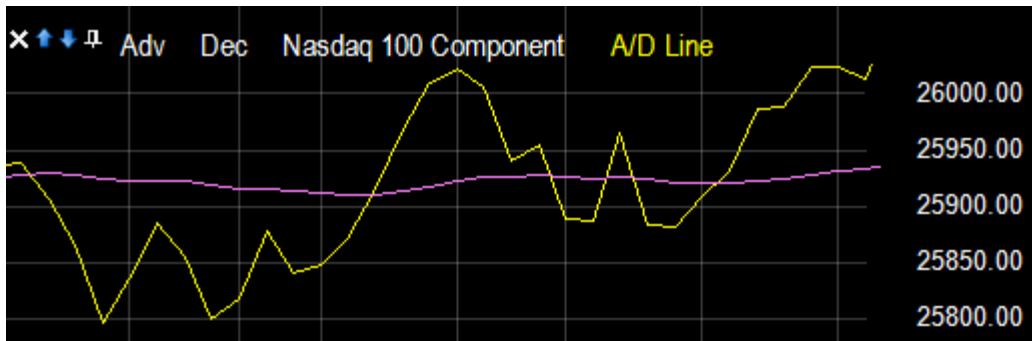
Accumulates the Numbers provided.

Uses:

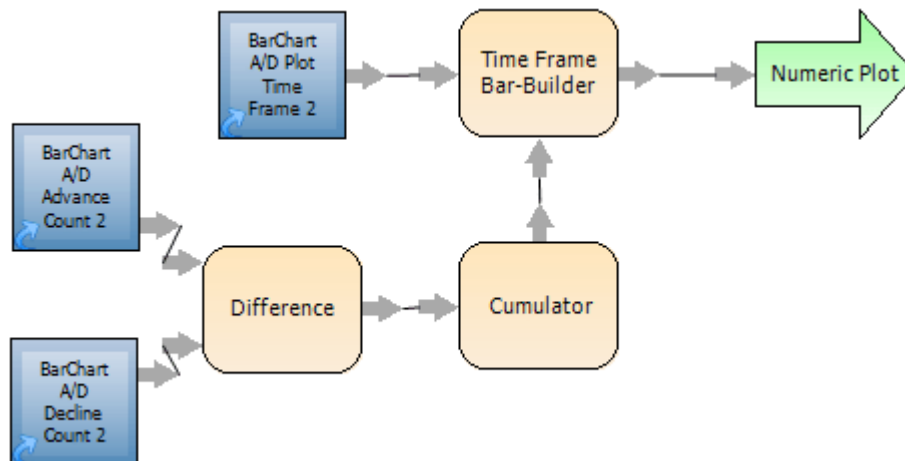
The Cumulator blocks is used anytime you want to add up the positive and/or negative values of a line. Uses include studies and strategies.

Example 1:

The following example is the Advance Decline Line Personal Chartist study. It cumulates the difference between the number of advancers and decliners in the Nasdaq 100 Component Stocks.



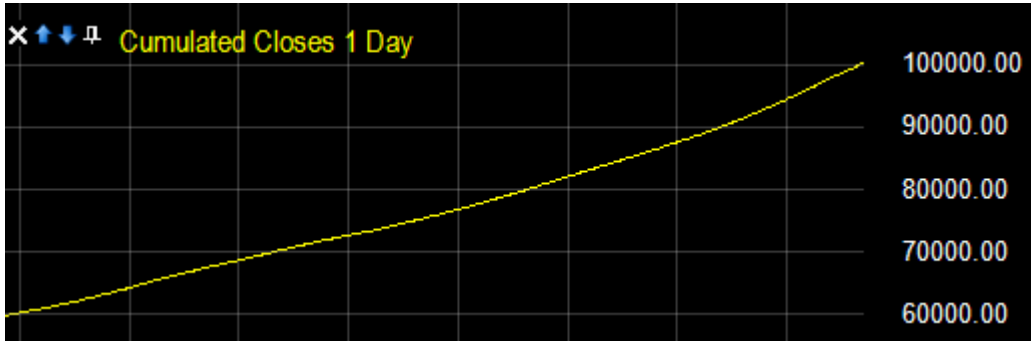
The A/D Line uses the cumulator block to keep a running tally of the difference between the number of advancers and decliners in the Nasdaq 100 Component stocks.



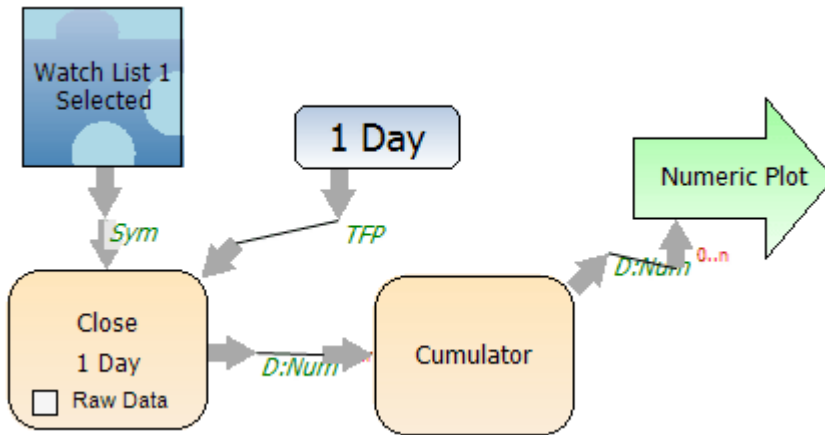
Block diagram for the A/D Line example above.

Example 2:

The following example simply cumulates all the close prices for the selected WatchList symbol.

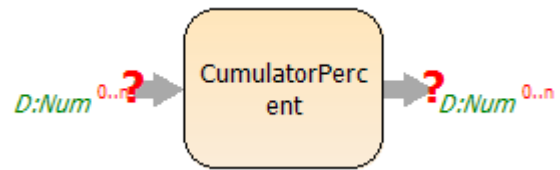


The cumulator block keeps a running tally of the sum of all the Close prices.



Block Diagram for the Cumulated Close Prices 1 Day plot above.

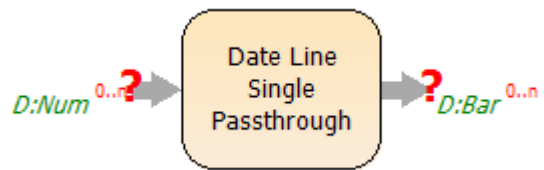
CumulatorPercent



Description

Accumulates values by multiplier.

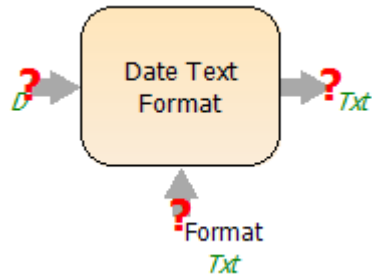
Date Line Single Passthrough



Description

Provides a common connection point

Date Text Format



Description

Applies a date format (example: MM/dd/yyyy hh:mm:ss) to convert the date to a string. The Date Text Format block recognizes certain case sensitive characters as elements of date/time. The table below lists the different characters and what element of date/time they represent:

M	month
d	day
y	year
h	hour
m	minute

The table above lists the characters that the Date Text Format block recognizes as different elements of date/time. They are used to format date/time for display.

Uses:

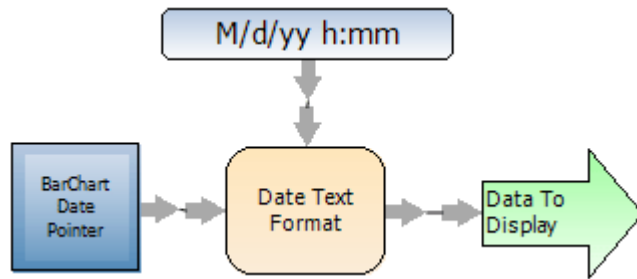
The Date Text block is used anytime you want to get the current date and/or time. Uses include legend and data displays.

Example:

The following example is the display for the data pointer on the chart of Personal Chartist. The date and time displayed in green in the upper right of the chart is formatted using the Date Text Format block.

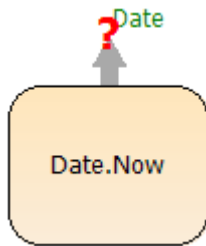


The date and time in green on the right is formatted using the Date Text Format block.



Block diagram for the formatted date and time in the chart above.

Date.Now



Description

The Date.Now block returns the current date.

Uses:

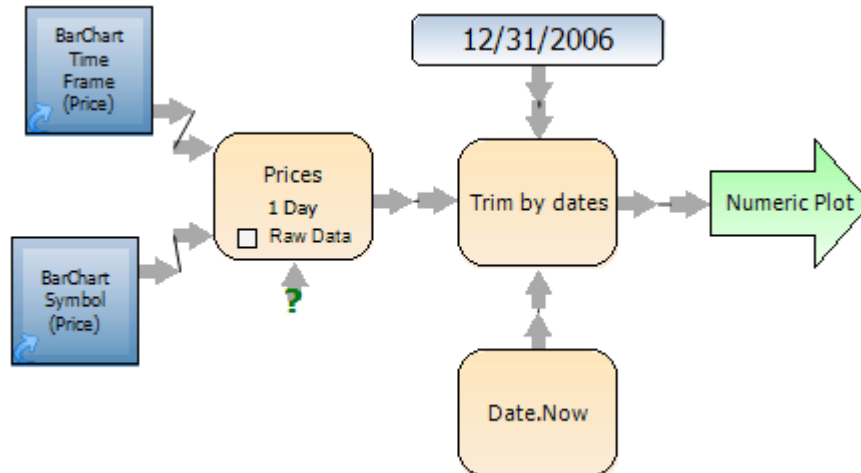
The Date.Now block is used anytime that you want to get access to the current datetime. Uses include truncating incoming data as well as displays including legend displays and data displays.

Example:

The following example truncates the data for YHOO using the Date.Now block to specify the endpoint of the data to display. Since the Date.Now block always returns the most current date, the data being displayed may be truncated, but it will always be current.

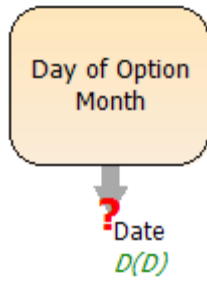


Both panes in the chart above contain price history for YHOO but the top one uses the Date.Now block to specify that the end of the data to be displayed should always be for the most current date available.



Block diagram for the Price History plot in the top pane of the chart above. Adding the Date.Now block to the End Date connector ensures that even though the data is truncated, the data will always display the most current data.

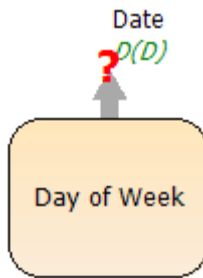
Day of Option Month



Description

Returns the day of the option month for the given date

Day of Week



Description

Converts a date to the equivalent day of the week for the current week of the year. It normalizes dates to the current week so that all days are represented as the day of the week for the current week.

Uses:

This block is used in cyclical analysis when you want to normalize all dates into the day of the week. See the Time Interval and Bar Builder blocks that have Date (Date) connector.

Example:

If fed a date that is a Wednesday of 2001, it will return the date for Wednesday of this week. If fed a Friday of 1982, it will return Friday of this week.

Note:

This block has a unique bi-directional connector: Date (Date) [Date for Date]. It's a 'lookup' connector which means it's provided a date in in the connection itself. The date is fed in by the block it's connected to.

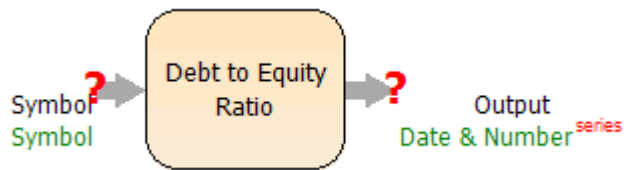
Related Articles

 [Bar Builder Average](#)

 [Bar Builder Sum](#)

 [Time Interval Cumulator](#)

Debt to Equity Ratio



Definition

From the most recent fiscal quarter, it is the Long Term Debt divided by Common Stock Equity.

See also the [Debt to Equity](#) study.

Uses:

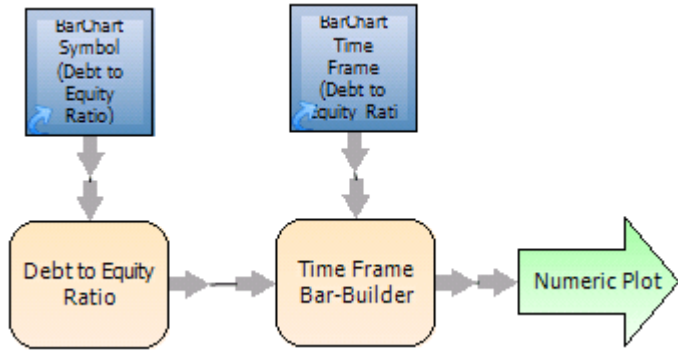
The Debt to Equity Ratio block is used to plot the Debt to Equity fundamental indicator.

Example:

The following example is the Debt to Equity Personal Chartist Study. It plots the debt to equity ratio for the chart's symbol.

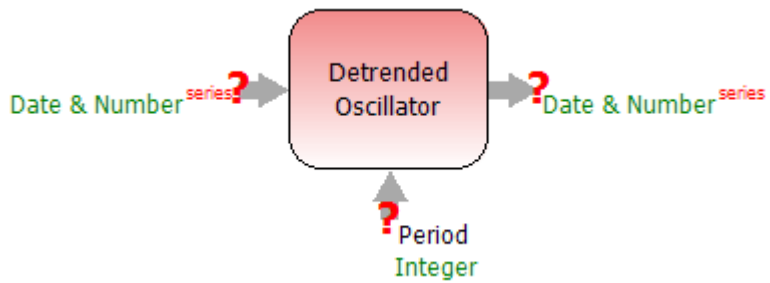


The Debt to Equity Ratio plot above use the Debt to Equity block to plot the indicator.



Block diagram for the Debt to Equity plot in the chart above.

Detrended Oscillator



Description

Returns a Detrended Oscillator for use in the Detrended Price Oscillator indicator for the period provided.

See also the [Detrended Price Oscillator](#) indicator.

Uses:

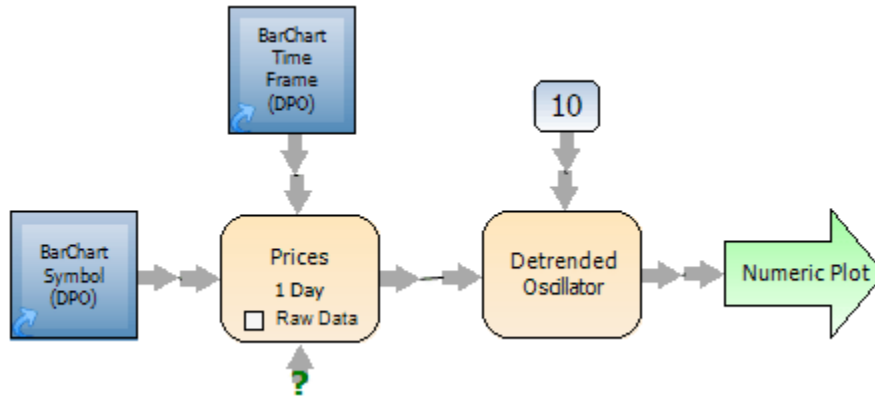
The Detrended Oscillator block is primarily used to calculate the Detrended PRICE Oscillator but it can be used to calculate a detrended oscillator for any line or bar series. Uses include studies, strategies, data displays and values in a table.

Example:

The following example is the Detrended Price Oscillator study from Personal Chartist.



The Detrended Price Oscillator (DPO) 10 plot above uses the Detrended Oscillator block to calculate the indicator.



Block diagram for Detrended Price Oscillator (DPO) 10 in the bottom pane of the chart above.

Source Code

```

<WBIGuid("ba8c2643-430a-40bc-a3b5-e9a825fb75b5"),FriendlyName("Detrended Oscillator"), _
ClassAuthor("The Blocks Company,LLC - JK", "Returns a Detrended Oscillator for use in the Detrended
Price Oscillator indicator for the period provided.", "10/18/2006")> _
  
```

```

Public Class DetrendedPriceOscillator
inherits BaseTemplateDLStoDLSPeriod
'Version 1.03
  
```

```

Public Overrides Sub calculate()
  
```

```

'-----
' This file is part of the Blocks Code Library.
  
```

```

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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
  
```

```

' For the source code and more information on this block go to
' kb.Blocks.com And search for "Detrended Price Oscillator."
  
```

```

' Changes
  
```

```

' 1.03 - Added If inputcount < 2 Then Exit Sub
  
```

```

'-----
If inputcount < 2 Then Exit Sub
  
```

```

Dim sum As Single = 0
Dim newx As Integer = 0
Dim MA As Single
Dim Osc As Single
Dim evenPeriod As Integer = Me.CodeBlock.ParameterValue
Dim even As Integer
  
```

```

If evenPeriod < 2 Then evenPeriod = 2
  
```

```
If evenPeriod > inputcount -1 Then evenPeriod = inputcount -2
even = CInt(evenPeriod/2)

If evenPeriod/2 > even Then
evenPeriod = evenPeriod -1
End If

For x As Integer = 0 To evenPeriod - 2
sum += InputValue(x)
Next
For x As Integer = evenPeriod -1 To InputCount - 1

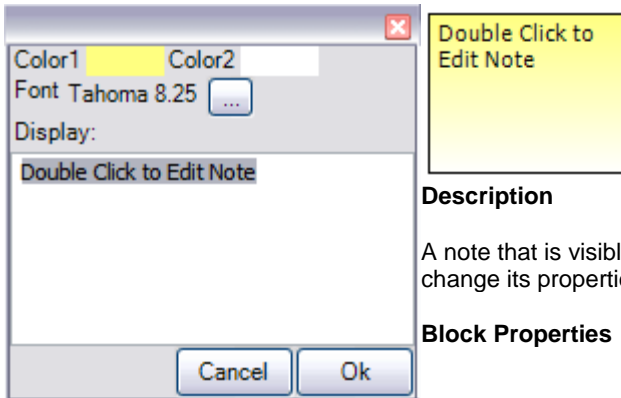
sum += InputValue(x)
Ma = sum / evenPeriod
Osc = InputValue(x - ((evenPeriod/2)+1)) - MA

AddToOutput(Me.CodeBlock.InputDate(x-((evenPeriod/2)+1)), Osc)

sum -= InputValue(x - evenPeriod + 1)
Next

End Sub
End Class
```

Diagram Note



Description

A note that is visible in the Block Diagram. Double-click the block to change its properties.

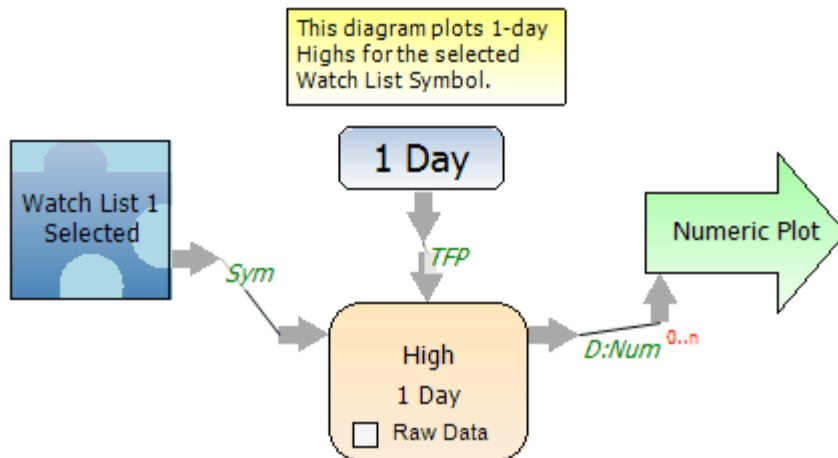
Block Properties

Color1, Color2 - The upper and lower colors used to create the background gradient fill of the block.

Font - The font that is used for the text to be displayed in the block.

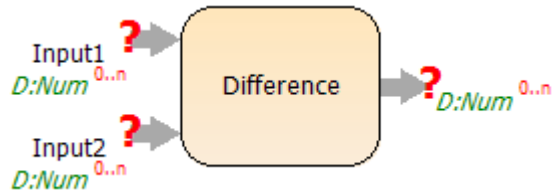
Display - The text to be displayed in the block.

Example



In the example above, the Diagram Note block provides a description of the block diagram

Difference (Date & Number)



Description

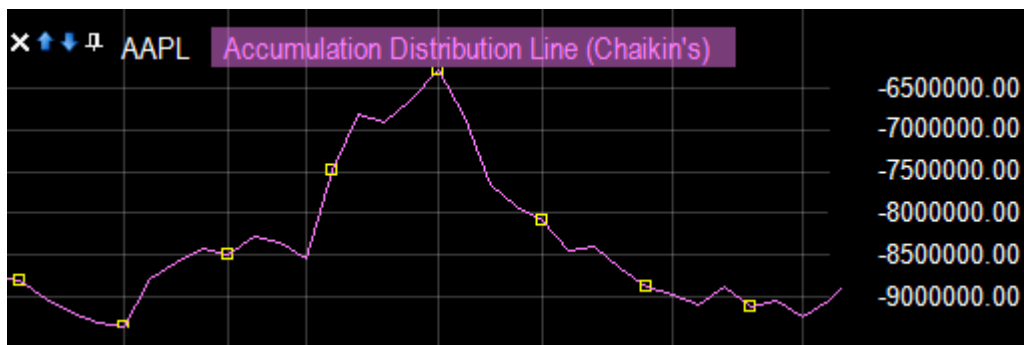
Returns Input1 minus Input2.

Uses:

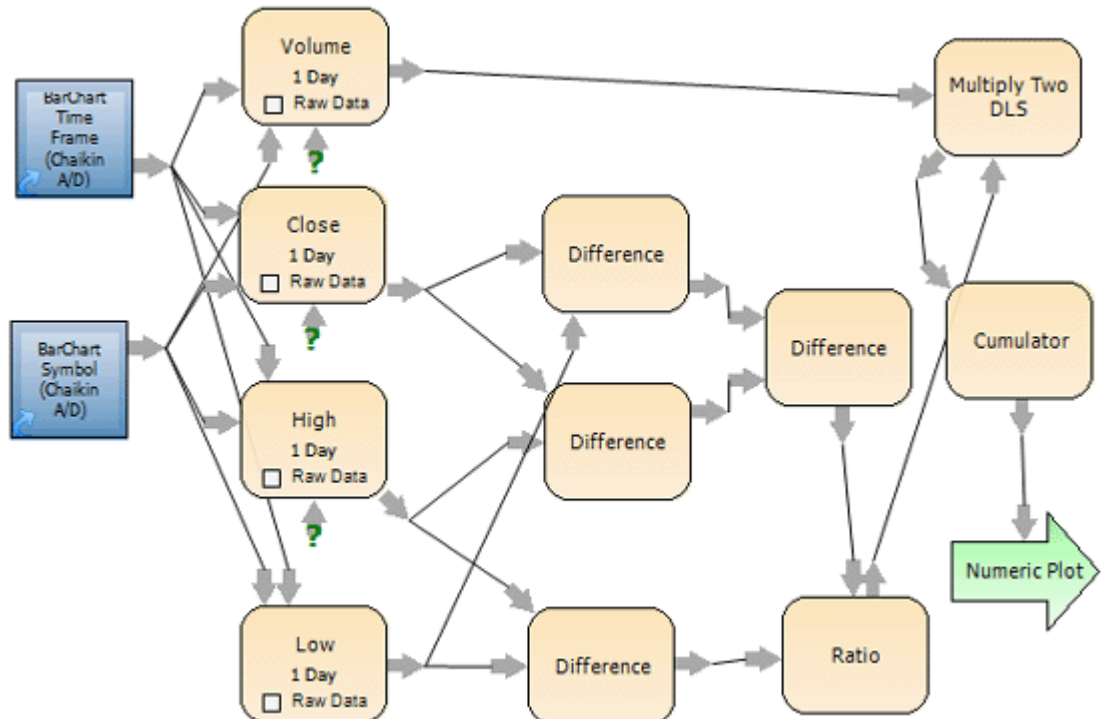
The Difference (Date & Number) block is used anytime you want find the difference between two lines. Uses include studies and conditions.

Example 1:

The following example creates the Accumulation Distribution Line study. It uses the Difference (Date & Number) block to calculate the indicator.



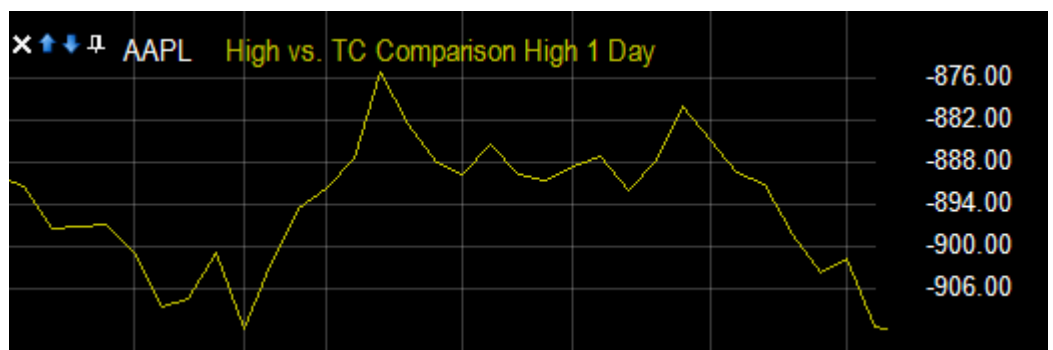
Accumulation Distribution Line study created using the Difference (Date & Number) block.



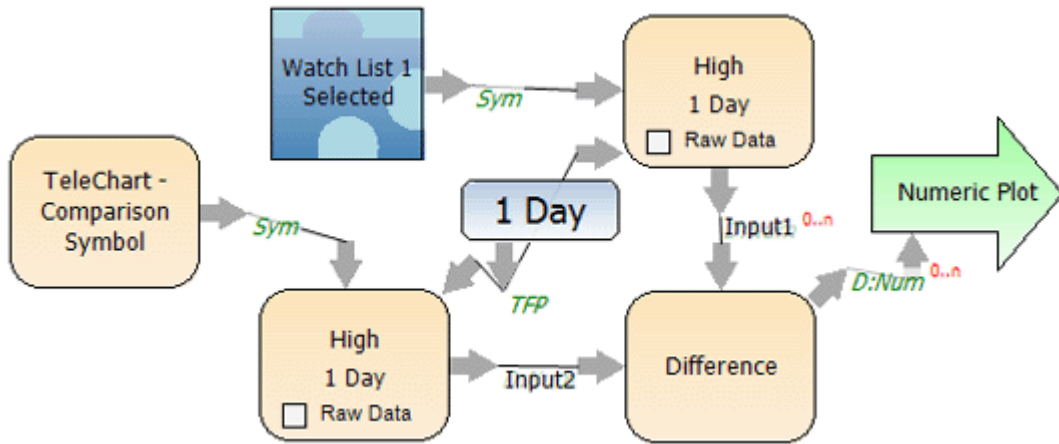
The block diagram for the Accumulation Distribution Line study above.

Example 2:

The example below draws a line that is the difference between the selected WatchList symbol's High and the current TeleChart comparison symbol's High.

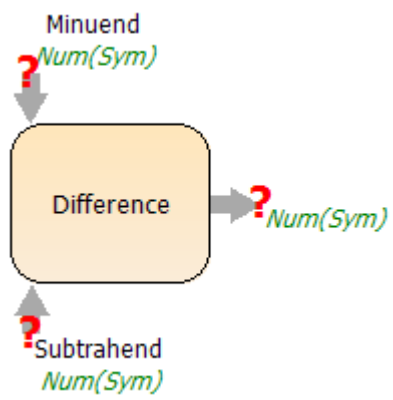


Line plot of the difference between the currently selected symbol's High and the current TeleChart comparison symbol's High.



Block diagram for the High vs. TC Comparison High 1 Day line above.

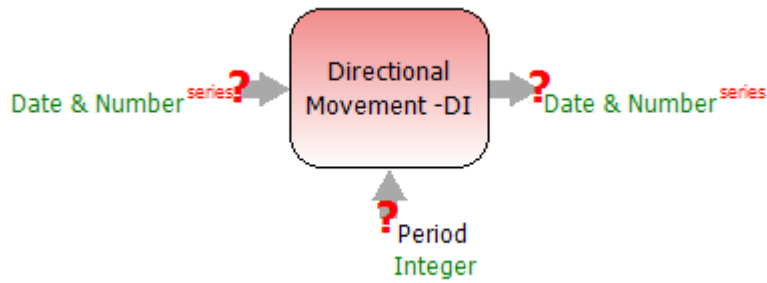
Difference (Number(Symbol))



Description

Returns Minuend minus Subtrahend.

Directional Movement -DI



Description

Returns the Directional Movement -DI for the period provided.

See also the [Directional Movement](#) indicator.

Uses:

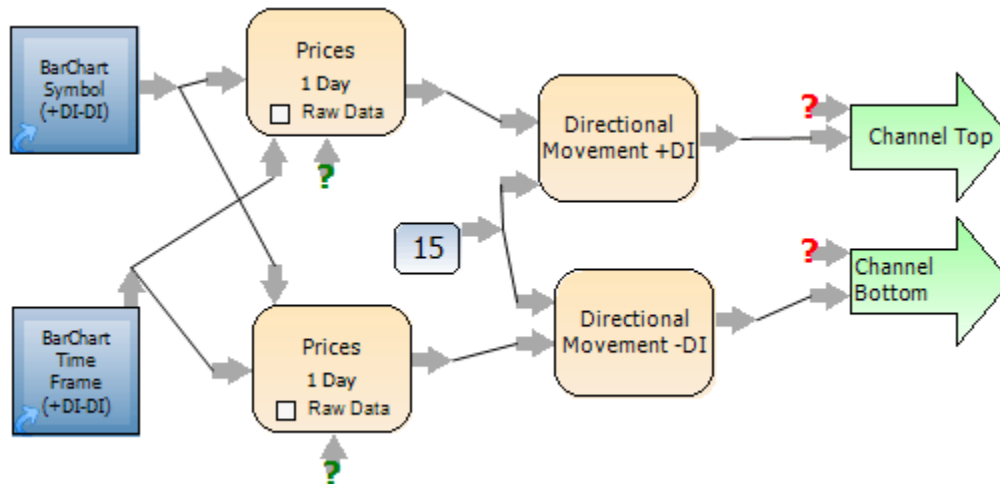
The Directional Movement -DI block is used to plot the -DI line of the Directional Movement indicator on a chart.

Example:

The following example is the Directional Movement (+DI -DI ADX) Personal Chartist Study. The Directional Movement -DI block is used to draw the lower channel line of the +DI/-DI 15 channel plot.



The +DI/-DI 15 channel plot above uses the Directional Movement -DI block to calculate the -DI component of the Directional Movement indicator.



Block diagram for the +DI/-DI 15 channel plot in the bottom pane of the chart above.

Source Code

```

<WBIGuid("50bf99b3-1a4a-45eb-9e76-7661745e4adc"),FriendlyName("Directional Movement -DI"), _
ClassAuthor("The Blocks Company,LLC - JK", "Returns the Directional Movement -DI for the period
provided.", "10/18/2006")> _
Public Class Directional_Movement_minusDI
Inherits BaseDLBtoDLSPeriod
'Version 1.01
Dim sumTrueRange As Single
Dim curTrueRange As Single
Dim plusDMPeriod As Single
Dim curPlusDM As Single
Dim curMinusDM As Single
Dim minusDMPeriod As Single
Dim TR As Single
Dim plusDM As Single
Dim minusDM As Single

Public Overrides Sub calculate()
'-----
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.Blocks.com And search for "Directional Movement -DI."

```

```

'
' Changes
' 1.01 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim Period As Integer = Me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount - 2 Then Period = inputcount - 2

'tally up first values
sumTrueRange = 0
plusDMPeriod = 0
minusDMPeriod = 0
For i As Integer = 1 To Period - 1

    curTrueRange = system.Math.Max(inputHigh(i) - inputLow(i), inputHigh(i) - inputLast(i-1))
    curTrueRange = system.Math.Max(curTrueRange, inputLast(i-1) - inputLow(i))
    sumTrueRange += curTrueRange

    If inputHigh(i) - inputHigh(i-1) > inputLow(i-1) - inputLow(i) And inputHigh(i) > inputHigh(i-1) Then
        plusDMPeriod += inputHigh(i) - inputHigh(i-1)
    End If

    If inputLow(i-1) - inputLow(i) > inputHigh(i) - inputHigh(i-1) And InputLow(i) < InputLow(i-1) Then
        minusDMPeriod += inputLow(i-1) - inputLow(i)
    End If

Next

'set first value for cumulative values
TR = sumTrueRange

'find values
For i As Integer = Period To Me.CodeBlock.InputCount - 1

    curTrueRange = system.Math.Max(inputHigh(i) - inputLow(i), inputHigh(i) - inputLast(i-1))
    curTrueRange = system.Math.Max(curTrueRange, inputLast(i-1) - inputLow(i))

    TR = TR-(TR/Period) + curTrueRange

    curPlusDM = 0
    curMinusDm = 0
    If inputHigh(i) - inputHigh(i-1) > inputLow(i-1) - inputLow(i) And inputHigh(i) > inputHigh(i-1) Then
        curPlusDM = inputHigh(i) - inputHigh(i-1)
    End If

    If inputLow(i-1) - inputLow(i) > inputHigh(i) - inputHigh(i-1) And InputLow(i) < InputLow(i-1) Then
        curMinusDM = inputLow(i-1) - inputLow(i)
    End If

    plusDMPeriod = plusDMPeriod - (plusDMPeriod/Period) + curPlusDM
    minusDMPeriod = minusDMPeriod - (minusDMPeriod/Period) + curMinusDM

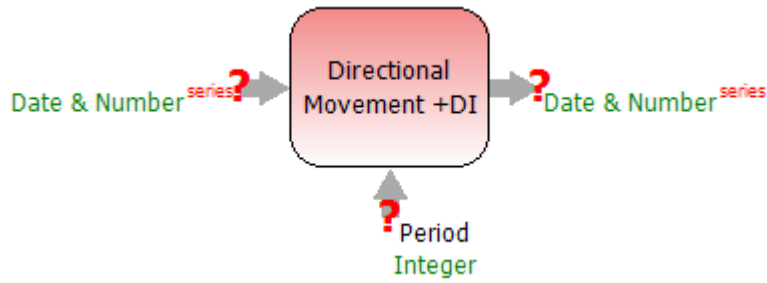
    addtooutput(inputdate(i), system.Math.Round(minusDMPeriod/TR*100))

Next

```

End Sub
End Class

Directional Movement +DI



Description

Returns the Directional Movement +DI indicator for the period provided.

See also the [Directional Movement](#) indicator.

Uses:

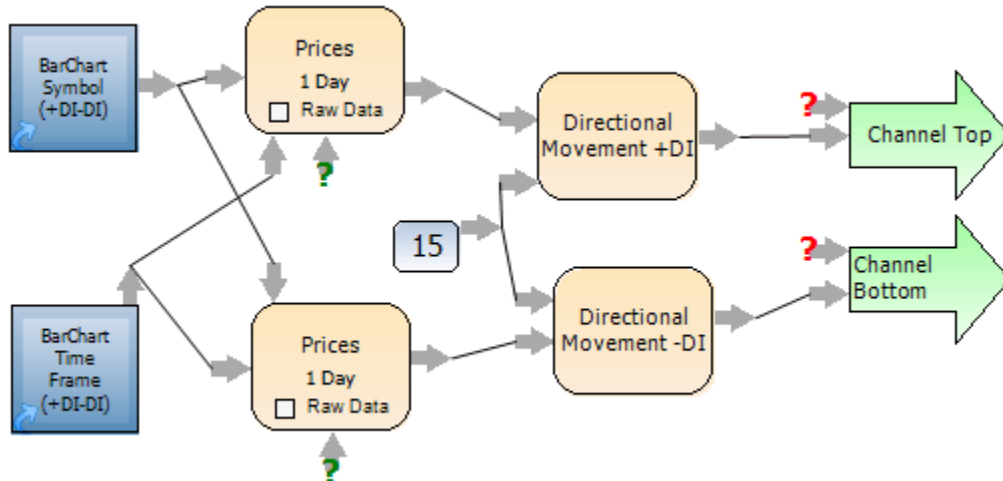
The Directional Movement +DI block is used to plot the +DI line of the Directional Movement indicator on a chart.

Example:

The following example is the Directional Movement (+DI -DI ADX) Personal Chartist Study. The Directional Movement +DI block is used to draw the upper channel line of the +DI/-DI 15 channel plot.



The +DI/-DI 15 channel plot above uses the Directional Movement +DI block to calculate the +DI component of the Directional Movement indicator.



Block diagram for the +DI/-DI 15 channel plot in the bottom pane of the chart above.

Source Code

```
<WBIGuid("b174bc53-cb27-4deb-8422-17a66b41ef66"),FriendlyName("Directional Movement +DI"), _
ClassAuthor("The Blocks Company,LLC - JK", "Returns the Directional Movement +DI indicator for the
period provided.", "10/18/2006")> _
Public Class Directional_Movement_PlusDI
Inherits BaseDLBtoDLSPeriod
'version 1.01
Dim sumTrueRange As Single
Dim curTrueRange As Single
Dim plusDMPeriod As Single
Dim curPlusDM As Single
Dim curMinusDM As Single
Dim minusDMPeriod As Single
Dim TR As Single
Dim plusDM As Single
Dim minusDM As Single
```

```
Public Overrides Sub calculate()
```

```
'-----
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' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
```

```

' kb.Blocks.com And search for "Directional Movement +DI."
'
' Changes
' 1.01 - Added If inputcount < 2 Then Exit Sub
'-----
if inputcount < 2 then exit sub

Dim Period as integer = Me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount - 2 Then Period = inputcount - 2

'tally up first values
sumTrueRange = 0
plusDMPeriod = 0
minusDMPeriod = 0
For i As Integer = 1 To Period - 1

    curTrueRange = system.Math.Max(inputHigh(i) - inputLow(i), inputHigh(i) - inputLast(i-1))
    curTrueRange = system.Math.Max(curTrueRange, inputLast(i-1) - inputLow(i))
    sumTrueRange += curTrueRange

    If inputHigh(i) - inputHigh(i-1) > inputLow(i-1) - inputLow(i) And inputHigh(i) > inputHigh(i-1) Then
        plusDMPeriod += inputHigh(i) - inputHigh(i-1)
    End If

    If inputLow(i-1) - inputLow(i) > inputHigh(i) - inputHigh(i-1) And InputLow(i) < InputLow(i-1) Then
        minusDMPeriod += inputLow(i-1) - inputLow(i)
    End If

Next

'set first value for cumulative values
TR = sumTrueRange

'find values
For i As Integer = Period To Me.CodeBlock.InputCount - 1

    curTrueRange = system.Math.Max(inputHigh(i) - inputLow(i), inputHigh(i) - inputLast(i-1))
    curTrueRange = system.Math.Max(curTrueRange, inputLast(i-1) - inputLow(i))

    TR = TR-(TR/Period) + curTrueRange

    curPlusDM = 0
    curMinusDm = 0
    If inputHigh(i) - inputHigh(i-1) > inputLow(i-1) - inputLow(i) And inputHigh(i) > inputHigh(i-1) Then
        curPlusDM = inputHigh(i) - inputHigh(i-1)
    End If

    If inputLow(i-1) - inputLow(i) > inputHigh(i) - inputHigh(i-1) And InputLow(i) < InputLow(i-1) Then
        curMinusDM = inputLow(i-1) - inputLow(i)
    End If

    plusDMPeriod = plusDMPeriod - (plusDMPeriod/Period) + curPlusDM
    minusDMPeriod = minusDMPeriod - (minusDMPeriod/Period) + curMinusDM

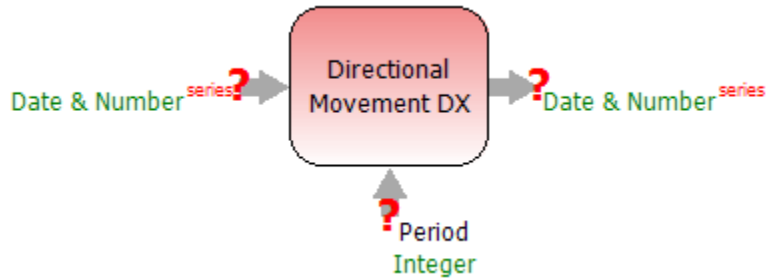
    addtooutput(inputdate(i), system.Math.Round(plusDMPeriod/TR*100))

Next

```

End Sub
End Class

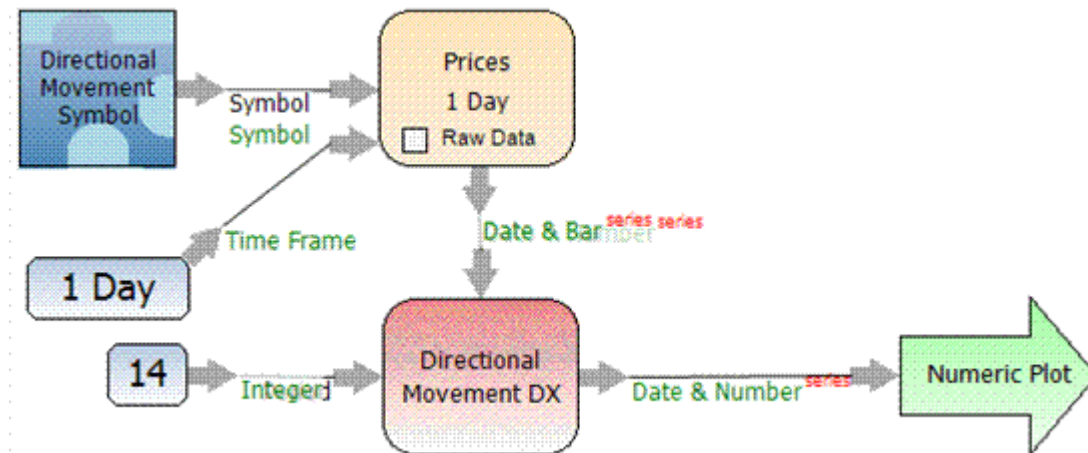
Directional Movement DX



Description

Returns the Directional Movement DX indicator for the period provided.

See also the [Directional Movement](#) indicator.



The example above plots a 14-day Directional Movement Dx of Prices for the Symbol provided.

Source Code

```
<WBIGuid("dbf6cf9b-d1ba-49fb-87f9-4b1a791ac820"),FriendlyName("Directional Movement DX"), _
ClassAuthor("The Blocks Company,LLC - JK", "Returns the Directional Movement DX indicator for the
period provided.", "10/18/2006")> _
Public Class Directional_Movement_DX
Inherits BaseDLBtoDLSPeriod
'Version 1.01
Dim sumTrueRange As Single
Dim curTrueRange As Single
Dim plusDMPeriod As Single
Dim curPlusDM As Single
Dim curMinusDM As Single
Dim minusDMPeriod As Single
Dim TR As Single
Dim plusDM As Single
Dim minusDM As Single

Public Overrides Sub calculate()
'-----
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'
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```

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' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.

' For the source code and more information on this block go to
' kb.Blocks.com And search for "Directional Movement DX."

' Changes
' 1.01 - Added If inputcount < 2 Then Exit Sub

If inputcount < 2 Then Exit Sub

Dim Period As Integer = Me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount - 2 Then Period = inputcount - 2

'tally up first values
sumTrueRange = 0
plusDMPeriod = 0
minusDMPeriod = 0
For i As Integer = 1 To Period - 1

curTrueRange = system.Math.Max(inputHigh(i) - inputLow(i), inputHigh(i) - inputLast(i-1))
curTrueRange = system.Math.Max(curTrueRange, inputLast(i-1) - inputLow(i))
sumTrueRange += curTrueRange

If inputHigh(i) - inputHigh(i-1) > inputLow(i-1) - inputLow(i) And inputHigh(i) > inputHigh(i-1) Then
plusDMPeriod += inputHigh(i) - inputHigh(i-1)
End If

If inputLow(i-1) - inputLow(i) > inputHigh(i) - inputHigh(i-1) And InputLow(i) < InputLow(i-1) Then
minusDMPeriod += inputLow(i-1) - inputLow(i)
End If

Next

'set first value for cumulative values
TR = sumTrueRange

'find values
For i As Integer = Period To Me.CodeBlock.InputCount - 1

curTrueRange = system.Math.Max(inputHigh(i) - inputLow(i), inputHigh(i) - inputLast(i-1))
curTrueRange = system.Math.Max(curTrueRange, inputLast(i-1) - inputLow(i))

TR = TR-(TR/Period) + curTrueRange

```
curPlusDM = 0
curMinusDm = 0
If inputHigh(i) - inputHigh(i-1) > inputLow(i-1) - inputLow(i) And inputHigh(i) > inputHigh(i-1) Then
  curPlusDM = inputHigh(i) - inputHigh(i-1)
End If

If inputLow(i-1) - inputLow(i) > inputHigh(i) - inputHigh(i-1) And InputLow(i) < InputLow(i-1) Then
  curMinusDM = inputLow(i-1) - inputLow(i)
End If

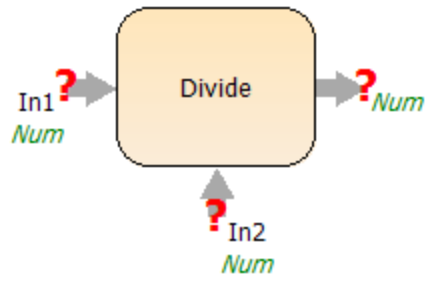
plusDMPeriod = plusDMPeriod - (plusDMPeriod/Period) + curPlusDM
minusDMPeriod = minusDMPeriod - (minusDMPeriod/Period) + curMinusDM

addtooutput(inputdate(i), system.Math.Round(minusDMPeriod/TR*100))

Next

End Sub
End Class
```

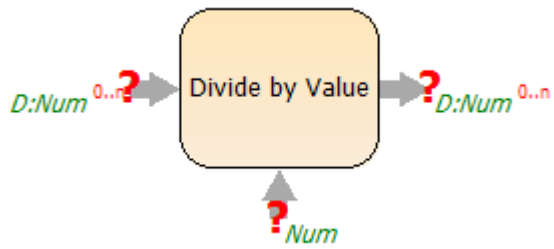
Divide



Description

Returns In1 divided by In2.

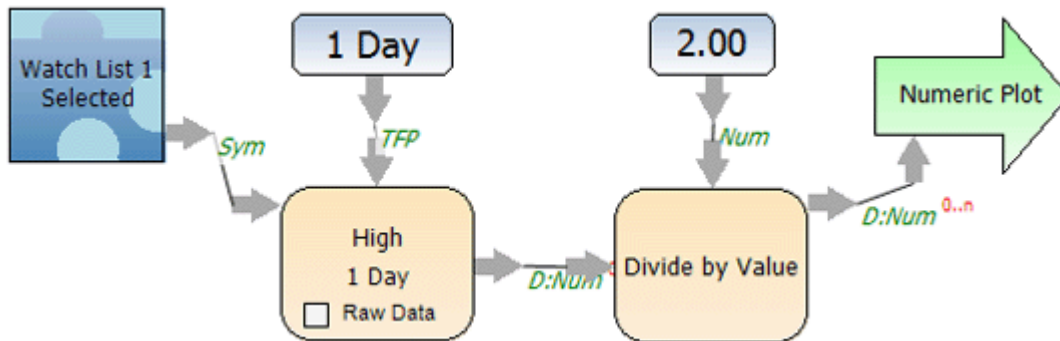
Divide by Value



Description

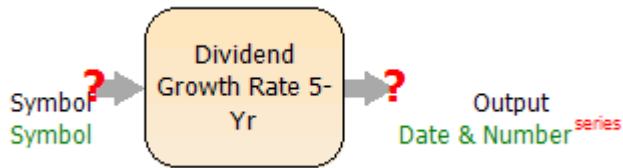
Returns the values provided divided by the Number provided.

Example



The example above plots the daily High prices divided by 2.00 for the selected Watch List Symbol.

Dividend Growth Rate 5-Yr



Definition

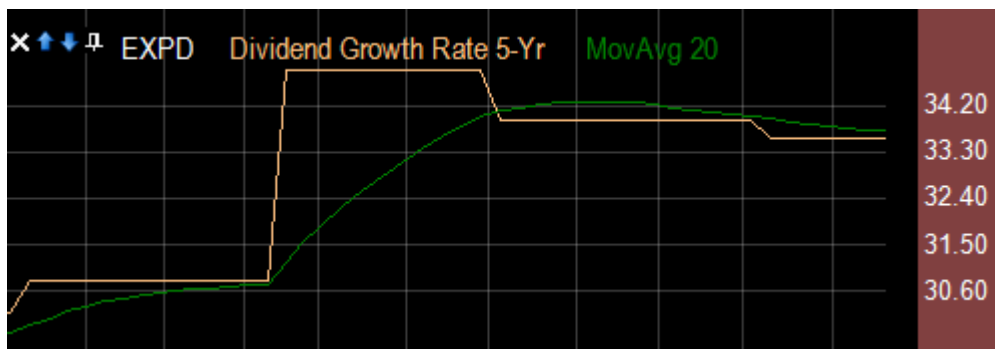
This is the compound annual dividend 5 year growth rate (includes accrued interest/dividend re-invested). The output is a series of dates and percentages.

Uses:

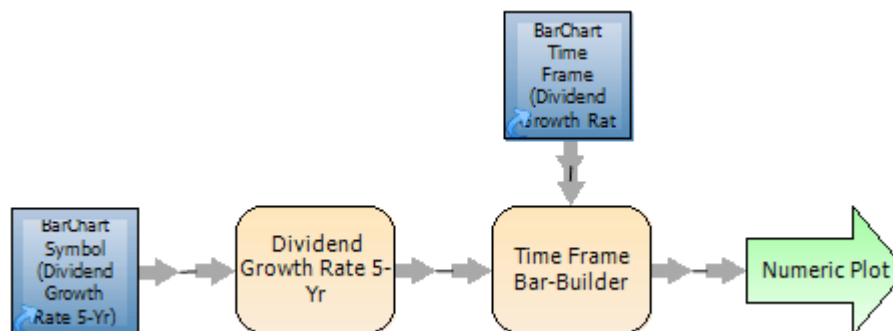
The Dividend Growth Rate 5-Yr block is used to display the 5 year dividend growth rate for a symbol. Uses include plots in a chart, and values in columns, legends and data displays.

Example 1:

The following example plots a line that is the 5 year dividend growth rate for each point in time.



The Dividend Growth Rate 5-Yr plot above uses the Dividend Growth Rate 5-Yr block to create the plot for the symbol EXPD.



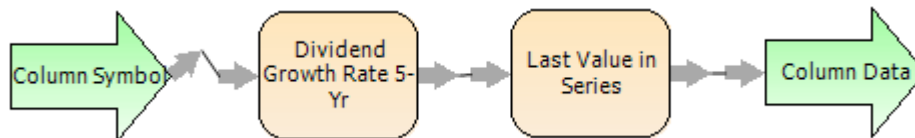
Block diagram for the Dividend Growth Rate 5-Yr plot above.

Example 2:

The following example displays the most current 5 year dividend growth rate for each stock in the WatchList.

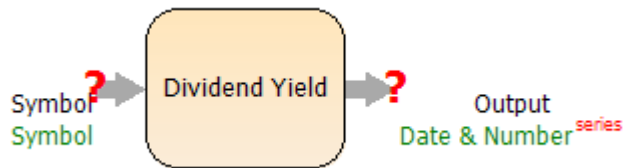
Nasdaq 100 Component Stocks		
WatchList Strategy ▼		
Main List Ind Sub TD		
Symbol	Company Name	Div 5 Yr Grwth
FAST	Fastenal Company	76.76
PCAR	Paccar Inc	44.71
INTC	Intel Corp	39.54
CHRW	C.H. Robinson Worldwide	36.17
EXPD	Expeditors International o	33.56
LLTC	Linear Technology Corp	31.70
TEVA	Teva Pharm Ind	31.09
ROST	Ross Stores Inc	24.39
SIAL	Sigma-Aldrich Corp	20.22
ERIC	Lm Ericsson Telephone C	17.40

The Div 5 Yr Grwth column uses the Dividend Growth Rate 5-Yr block to display the latest value of the 5 year dividend growth rate.



Block diagram for the Div 5 Yr. Grwth column in the WatchList above.

Dividend Yield



Definition

This is the latest dividend divided by the share price. It reads in percentage.

Interpretations

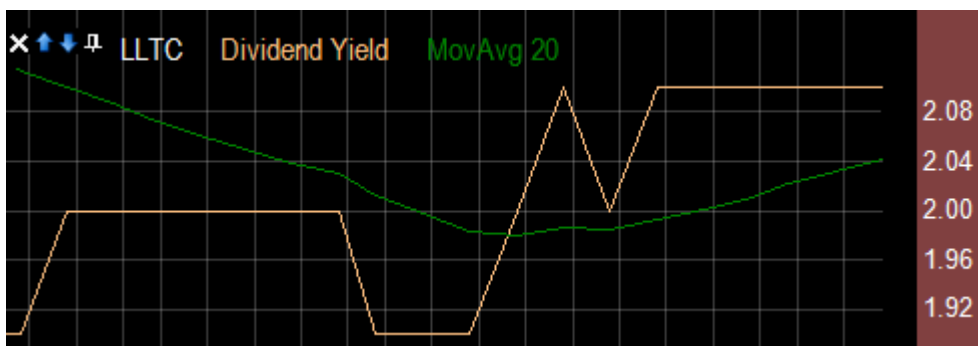
“Dividend yield is a way to measure how much cash flow you are getting for each dollar invested in an equity position - in other words, how much "bang for your buck" you are getting from dividends. Investors who require a minimum stream of cash flow from their investment portfolio can secure this cash flow by investing in stocks paying relatively high, stable, dividend yields.” – [Investopedia.com](https://www.investopedia.com)

“Historically, a higher dividend yield has been considered to be desirable among investors. A high dividend yield can be considered to be evidence that a stock is underpriced or that the company has fallen on hard times and future dividends will not be as high as previous ones. Similarly a low dividend yield can be considered evidence that the stock is overpriced or that future dividends might be higher.” ... “Dividend yield fell out of favor somewhat during the 1990s because of an increasing emphasis on price appreciation over dividends as the main form of return on investments.” – [Wikipedia](https://en.wikipedia.org)

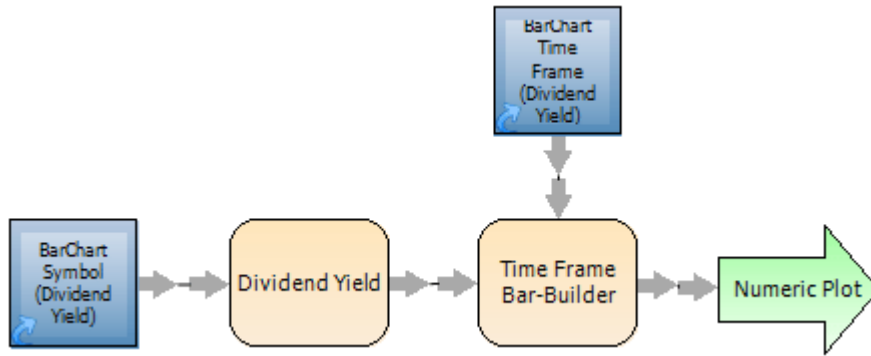
“Dividend yield is an easy way to compare the relative attractiveness of various dividend-paying stocks. It tells an investor the yield he / she can expect by purchasing a stock. This allows a basis of comparison between other investments such as bonds, certificates of deposit, etc.” – [About.com](https://www.about.com)

Example

The following example is the Dividend Yield study from Personal Chartist. It displays the dividend yield for the selected symbol for each point in time.



The Dividend Yield plot uses the Dividend Yield block to plot the fundamental indicator.



The block diagram for the Dividend Yield plot in the chart above.

Related Articles

[How Dividends Work For Investors](#)

[The Importance of Dividends](#)

[The Power of Dividend Growth](#)

[How and Why Do Companies Pay Dividends?](#)

Additional Information

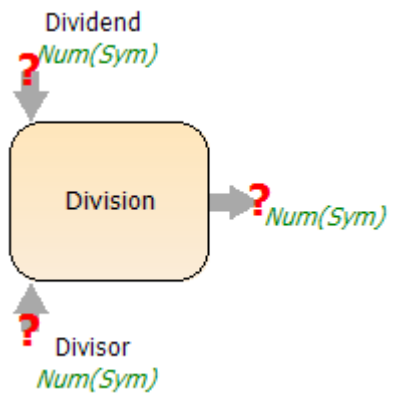
[About.com](#)

[Investopedia.com](#)

[InvestorWords.com](#)

[Wikipedia](#)

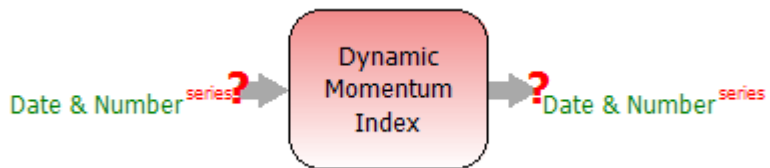
Division



Description

Returns the Dividend divided by the Divisor.

Dynamic Momentum Index



Description

Provides the Dynamic Momentum Index indicator.

See also the [Dynamic Momentum Index](#) Indicator.

Uses:

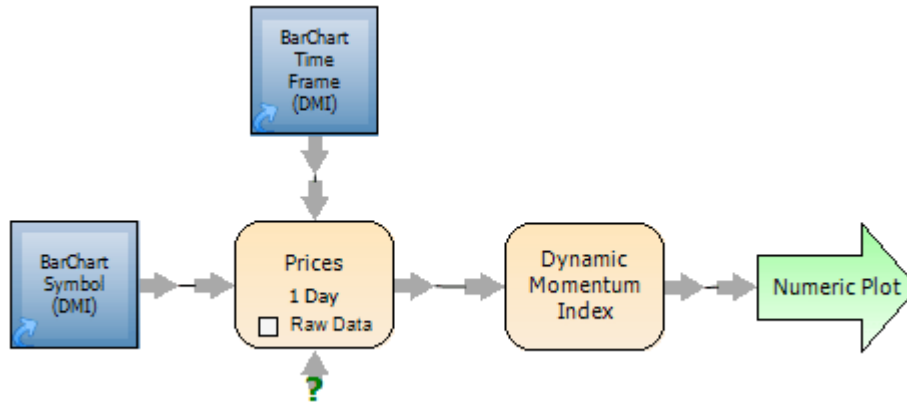
The Dynamic Momentum Index is used to plot the Dynamic Momentum indicator on a chart.

Example:

The following example is the Dynamic Momentum Index Personal Chartist Study.



The Dynamic Momentum Index plot above uses the Dynamic Momentum Index block to plot the indicator.



Block diagram for the Dynamic Momentum Index plot in the bottom pane of the chart above.

Source Code

```

<WBIGuid("ead9ae80-2dc5-4fb6-b291-b30b167b4a7d"),FriendlyName("Dynamic Momentum Index"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Dynamic Momentum Index indicator.",
"10/17/2006")> _
  
```

```

Public Class DynamicMomentumIndex
Inherits BaseTemplateDLStoDLS
  
```

```
'Version 1.12
```

```

Dim sumOfDeviations As Single
Dim sumOfPeriod As Single
Dim MA5OfPeriod As Single
Dim currPeriod As Integer
Dim sumForMA As Single
Dim vollIndex As Single
  
```

```

Dim wildersUpSum As Single
Dim wildersDnSum As Single
Dim newUp As Single
Dim newDn As Single
Dim currNetChange As Single
  
```

```

Dim SDValues() As Single 'holds Standard deviations
Dim MAValues() As Single 'holds Moving averages
  
```

```
Public Overrides Sub calculate()
```

```
'-----
' This file is part of the Blocks Code Library.
```

```
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```

```

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```

```

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' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
  
```

```
' For the source code and more information on this block go to
```

```

' kb.Blocks.com And search for "Dynamic Momentum Index."
'-----
ReDim SDValues(Me.CodeBlock.InputCount - 1)
ReDim MAValues(Me.CodeBlock.InputCount - 1)

SumofDeviations = 0
sumOfPeriod = 0
MA5OfPeriod = 0
currPeriod = 0
sumForMA = 0
volIndex = 0
WildersUpSum = 0
WildersDnSum = 0
newUp = 0
newDn = 0
currNetChange = 0
Try ' del
'calc 5 day standard deviation for all values for Volatility Index

'count up the values for first period calc
For i As Integer = 0 To 3
    sumofperiod+=Me.CodeBlock.InputValue(i)
Next

For i As Integer = 4 To Me.CodeBlock.InputCount - 1

    sumofperiod += Me.CodeBlock.InputValue(i)

    MA5ofperiod = sumofperiod/5

    sumofdeviations = 0

'calculate the sum of deviations for period
For y As Integer = (i - 4) To i
    sumofdeviations += (Me.CodeBlock.InputValue(y) - MA5ofperiod)^2
Next

' SDDates(i) = Me.CodeBlock.InputDate(i)
SDValues(i) = system.Math.Sqrt(sumofdeviations/5)

sumofperiod -= Me.CodeBlock.InputValue(i - 4)

'test of Stand Dev
'Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), SDValues(i))
Next
'-----

'calc 10 day MA for all Standard Dev Values
For i As Integer = 4 To 12

    sumForMA += SDValues(i)
'test of MA
'sumforMA += Me.CodeBlock.InputValue(i)
Next

For i As Integer = 13 To Me.CodeBlock.InputCount - 1

    sumForMA += SDValues(i)

```

```
MAValues(i) = sumforMA/10
```

```
sumForMA -= SDValues(i - 9)
```

```
Next
```

```
'-----
```

```
'calculate initial Wilders U and D
```

```
If SDValues(29) = 0 Then SDValues(29) = 1
```

```
If MAValues(29) = 0 Then MAValues(29) = 1
```

```
currPeriod = microsoft.VisualBasic.Conversion.Int(14/(SDValues(29)/MAValues(29)))
```

```
If currPeriod < 3 Then currPeriod = 3
```

```
If currPeriod > 11 Then currPeriod = 11
```

```
For i As Integer = 11 - currPeriod + 1 To 11
```

```
currNetChange = Me.CodeBlock.InputValue(i) - Me.CodeBlock.InputValue(i-1)
```

```
If currNetChange = system.Math.Abs(currNetChange) Then
```

```
newUp += currNetChange
```

```
Else
```

```
newDn += system.Math.Abs(currNetChange)
```

```
End If
```

```
Next
```

```
WildersUpSum = newup/currPeriod
```

```
WildersDnSum = newDn/currPeriod
```

```
'-----
```

```
'calculate Wilders U and D up until first point
```

```
For i As Integer = 12 To 28
```

```
currNetChange = Me.CodeBlock.InputValue(i) - Me.CodeBlock.InputValue(i-1)
```

```
If currNetChange = system.Math.Abs(currNetChange) Then
```

```
newUp = currNetChange
```

```
newDn = 0
```

```
Else
```

```
newDn = system.Math.Abs(currNetChange)
```

```
newUp = 0
```

```
End If
```

```
'calc new wilders for RSI
```

```
wildersUpSum = wildersUpSum + ((newUp - wildersUpSum)/currPeriod)
```

```
wildersDnSum = wildersDnSum + ((newDn - wildersDnSum)/currPeriod)
```

```
Next
```

```
'-----
```

```
'calc Dynamic Momentum Index
```

```
For i As Integer = 29 To Me.CodeBlock.InputCount - 1
```

```
If MAValues(i) = 0 Then MAValues(i) = 1
```

```
volIndex = SDValues(i)/MAValues(i)
```

```
If volIndex = 0 Then volIndex = 1
```

```
currPeriod = microsoft.VisualBasic.Conversion.int(14/volIndex)
```

```
If currPeriod < 3 Then currPeriod = 3
```

```
If currPeriod > 30 Then currPeriod = 30
```

```
'calc RSI
```

```
'Find ups and dns for period
```

```
currNetChange = Me.CodeBlock.InputValue(i) - Me.CodeBlock.InputValue(i-1)
```

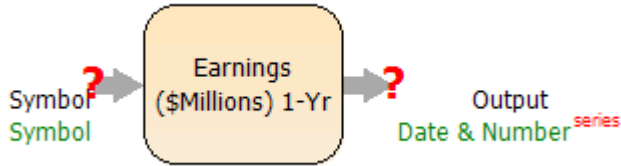
```
If currNetChange = system.Math.Abs(currNetChange) Then
```

```
newUp = currNetChange
newDn = 0
Else
newDn = system.Math.Abs(currNetChange)
newUp = 0
End If

'calc new wilders for RSI
wildersUpSum = wildersUpSum + ((newUp - wildersUpSum)/currPeriod)
wildersDnSum = wildersDnSum + ((newDn - wildersDnSum)/currPeriod)
If wildersDnSum = 0 Then wildersDnSum = 1
Dim divisor As Single = 1 + (wildersUpSum/wildersDnSum)
Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), _
100 - (100/divisor))

Next
'-----
Catch
Dim yo As Integer
yo = 2
End Try
End Sub
End Class
```

Earnings (\$Millions) 1-Yr



Definition

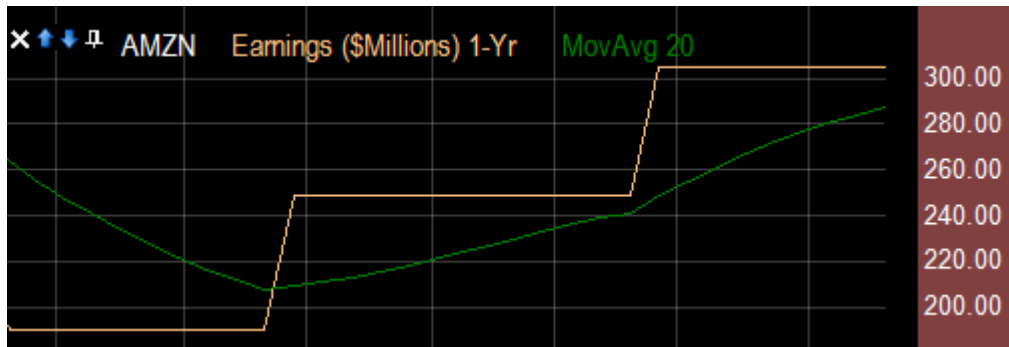
This is the sum of the trailing 4 quarters of net income (profit) as taken from the quarterly report. This is not the [earnings per share](#). This value will also provide some insight into company size. It reads in millions of dollars.

Uses:

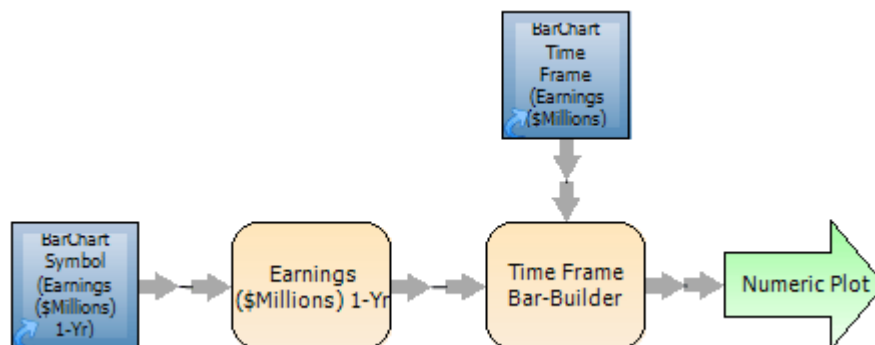
The Earnings (\$Millions) 1-Yr block is used to display earnings, either as a single value or as a line plot of earnings over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as for building strategies.

Example:

The following example is the Earnings (\$Millions) 1-Yr study from Personal Chartist.

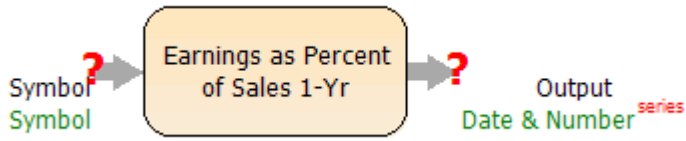


The Earnings (\$Millions) 1-Yr plot above uses the Earnings (\$Millions) 1-Yr block to plot the fundamental indicator.



Block diagram for the Earnings (\$Millions) 1-Yr plot in the chart above.

Earnings as a Percent of Sales 1-Yr



Definition

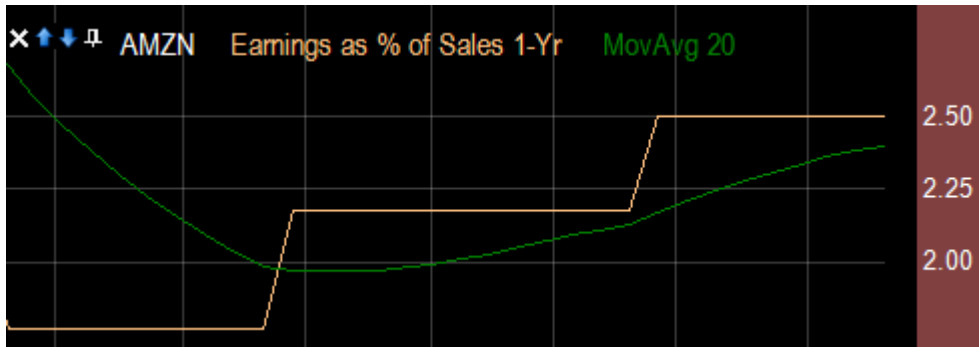
This is an indication of profit margin. Weak profit margins are often a sign of hidden vulnerability in a stock that appears to have high earnings. Be careful of companies that pay high dividends while having low profit margins. Within industries, the companies with the highest profit margins are usually the leaders. It is a sign of good management. This reads in percentage.

Uses:

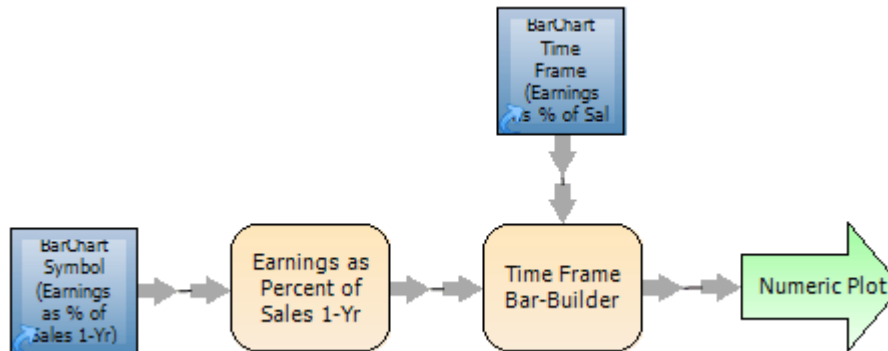
The Earnings as Percent of Sales 1-Yr block is used to display earnings, either as a single value or as a line plot of earnings over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as for building strategies.

Example:

The following example is the Earnings as % of Sales 1-Yr study from Personal Chartist.

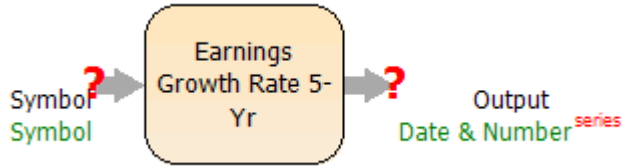


The Earnings as % of Sales 1-Yr plot above uses the Earnings as % of Sales 1-Yr block to plot the fundamental indicator.



Block diagram for the Earnings as % of Sales 1-Yr plot in the chart above.

Earnings Growth Rate 5-Yr



Definition

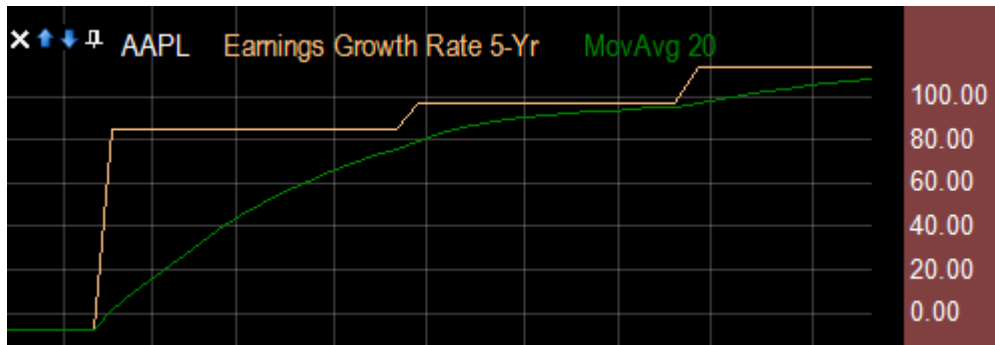
The compound annual earnings per share 5-year growth rate. In looking for quality companies, well established companies of good size, this criterion is indispensable. The units are in percentages.

Uses:

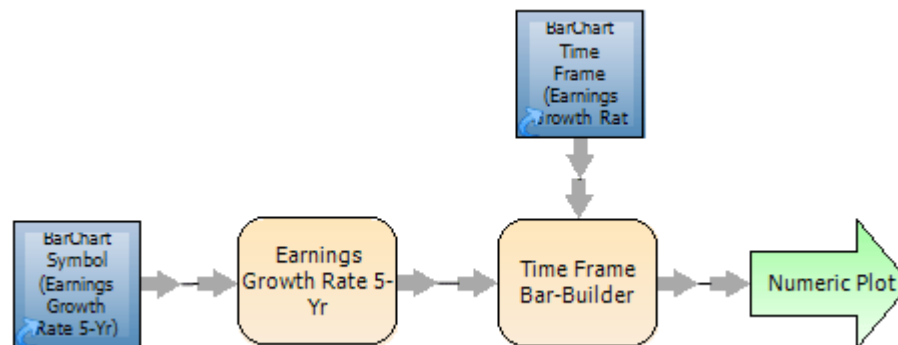
The Earnings Growth Rate 5-Yr block is used to display earnings, either as a single value or as a line plot of earnings over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as as a condition in a strategy.

Example:

The following example is the Earnings Growth Rate 5-Yr study from Personal Chartist.



The Earnings Growth Rate 5-Yr plot above uses the Earnings Growth Rate 5-Yr block to plot the fundamental indicator.



Block diagram for the Earnings Growth Rate 5-Yr plot in the chart above.

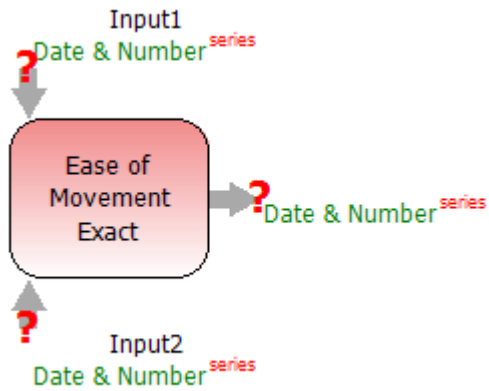
Example 2:

The following example is a column in a WatchList. The column contains the latest 5 year earnings growth rate for each symbol in the WatchList.

Nasdaq 100 Component Stocks		
WatchList Strategy ▼		
Main List Ind Sub TD		
Symbol	Company Name	▼ Earn Grwth 5Yr
GOOG	Google	148.77
PTEN	Patterson-Uti Energy I	132.59
AAPL	Apple Inc	113.50
QCOM	Qualcomm Inc	56.20
SNDK	Sandisk Corp	53.07
NTAP	Network Appliance Inc	50.79
CTSH	Cognizant Tech Sol Cp	50.31
ADSK	Autodesk Inc	47.74
ALTR	Altera Corp	46.04
BIIB	Biogen Idec Inc	42.98
PCAR	Paccar Inc	41.51
EBAY	Ebay Inc	40.79

The Earn Grwth 5Yr column uses the Earnings Growth Rate 5-Yr block to display the most current 5 year earnings growth rate for each symbol in the WatchList.

Ease of Movement



Description

Returns the Ease of Movement indicator for the period provided.

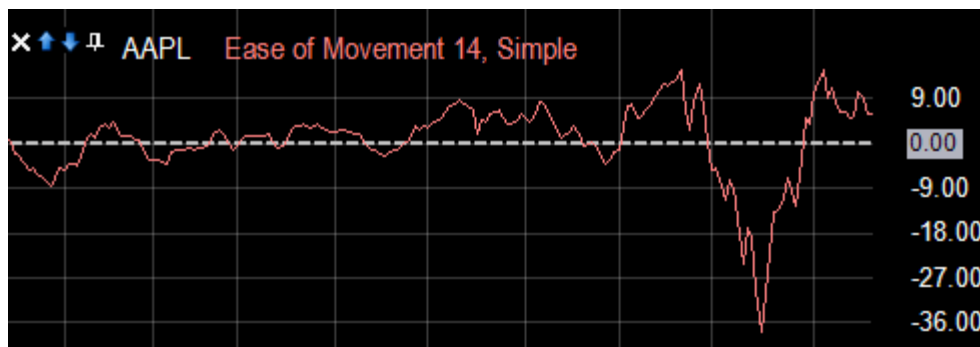
See also the [Ease of Movement](#) indicator.

Uses:

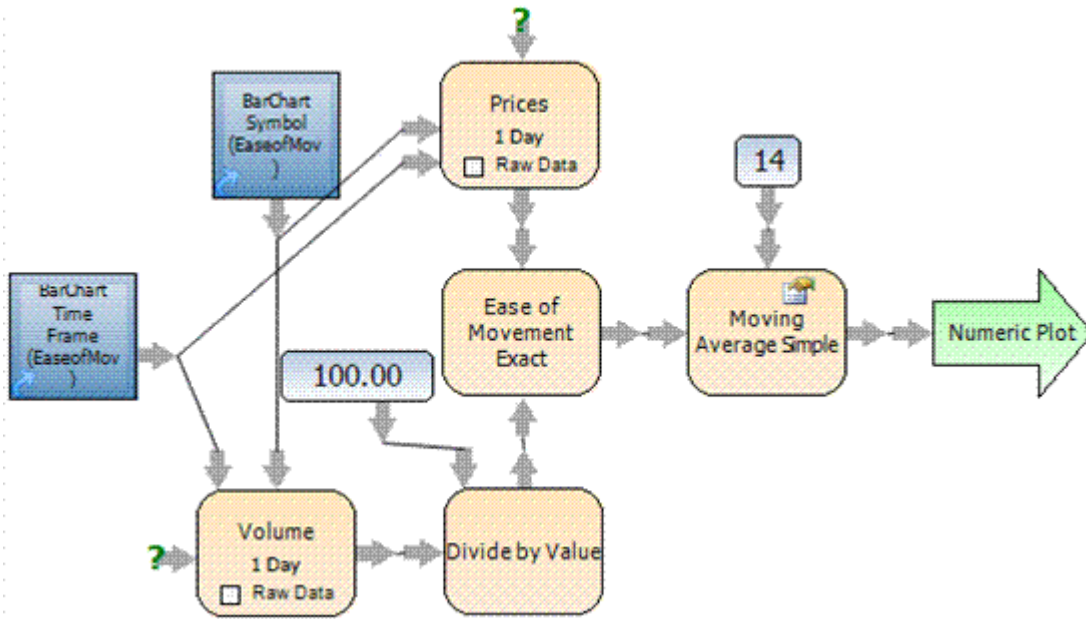
The Ease of Movement Exact block is used to display the Ease of Movement indicator, either as a single value or as a line plot of values over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as condition in a strategy.

Example:

The following example is the Ease of Movement study from Personal Chartist.



The Ease of Movement 14, Simple plot above uses the Ease of Movement Exact block to plot the indicator.



Block diagram for the Ease of Movement 14, Simple plot in the chart above.

Source Code

```

<WBIGuid("09d279b1-11c0-4e30-8672-a4721e0fc0a2"),FriendlyName("Ease of Movement Exact"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Ease of Movement indicator for the period
provided.", "10/17/2006")> _
Public Class EaseofMovementExact
'Version 1.03
Inherits BaseTemplateDBSAndDBSToDLS
Public Overrides Sub calculate()
-----
' This file is part of the Blocks Code Library.
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Ease of Movement."
-----
Dim divisor As Single

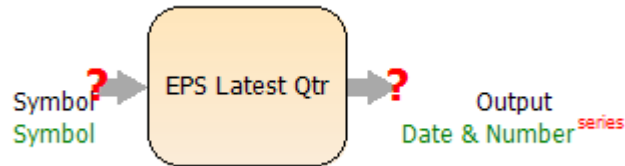
For i As Integer = System.Math.Max(Input1FirstActualIndex, Input2FirstActualIndex) + 1 To _
System.Math.Min(Input1LastActualIndex, Input2LastActualIndex)

divisor = Input1High(i) - Input1Low(i)
If divisor = 0 Then divisor = 1
  
```

```
divisor = (Input2Last(i)/10000)/divisor
If divisor = 0 Then divisor = 1

AddToOutput(InputDate(i), (((Input1High(i) + Input1Low(i))/2) -
((Input1High(i-1) + Input1Low(i-1))/2))/divisor)
Next
End Sub
End Class
```

Earnings Per Share (Latest Quarter)



Definition

Fully Diluted earnings per share from Total Operations, as taken from the latest 3-month ending period.

Description

Earnings per Share breaks down the value of a company on a per share basis. It is useful for comparing the inherent value of different stocks.

Interpretations

“Earnings per share is generally considered to be the single most important variable in determining a share's price. It is also a major component of the price-to-earnings valuation ratio.” - [Investopedia.com](https://www.investopedia.com)

“An important aspect of EPS that's often ignored is the capital that is required to generate the earnings (net income) in the calculation. Two companies could generate the same EPS number, but one could do so with less equity (investment) - that company would be more efficient at using its capital to generate income and, all other things being equal, would be a "better" company. Investors also need to be aware of earnings manipulation that will affect the quality of the earnings number. It is important not to rely on any one financial measure, but to use it in conjunction with statement analysis and other measures.” - [Investopedia.com](https://www.investopedia.com)

Related Articles

[Types of EPS](#)

[How to Evaluate the Quality of EPS](#)

[Understanding Earnings per Share](#)

Additional Information

[Investopedia.com](https://www.investopedia.com)

[StreetAuthority.com](https://www.streetauthority.com)

[Wikipedia](https://www.wikipedia.com)

Calculation

[Investopedia.com](https://www.investopedia.com)

[Wikipedia](https://www.wikipedia.com)

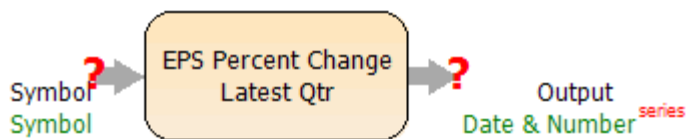
Related Indicators

[P/E Ratio](#)

Related Articles

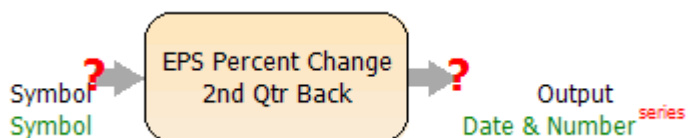
 [Earnings per Share \(EPS\)](#)

Earnings Per Share Percent Change



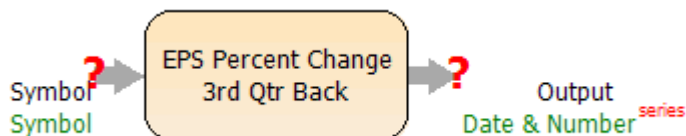
Definition

The percentage change in earnings per share from the comparable quarter a year before. Timely stocks will usually have strong recent quarterly earnings to validate the annual earnings strength. This reads in percentage.



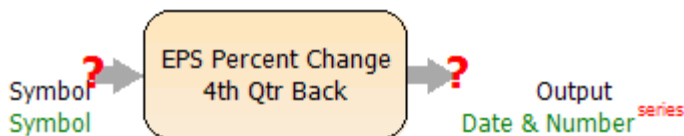
Definition

The percentage change in earnings per share from the comparable quarter a year before.



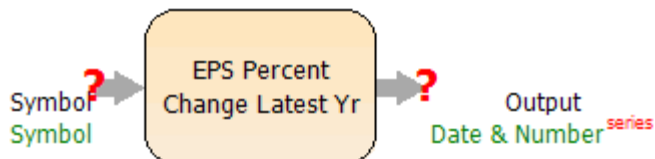
Definition

The percentage change in earnings per share from the comparable quarter a year before.



Definition

The percentage change in earnings per share from the comparable quarter a year before.



Definition

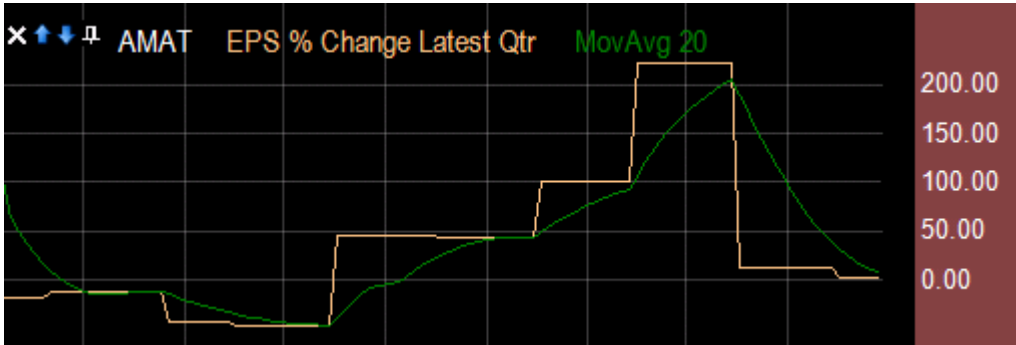
The percentage change in earnings for the latest 4 quarters compared to the preceding 4 quarters.

Uses:

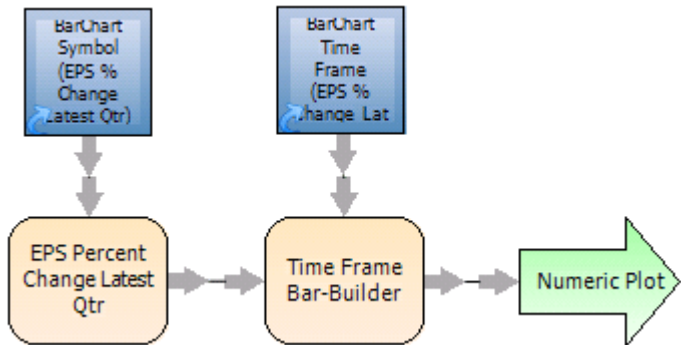
The various EPS Percent Change blocks are used to display the earnings per share percent change for the various time periods, either as a single value or as a line plot of EPS percent change over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as condition in a strategy.

Example:

The following example is the EPS % Change Latest Qtr study from Personal Chartist.



The EPS % Change Latest Qtr plot above uses the EPS Percent Change Latest Qtr block to plot the fundamental indicator.

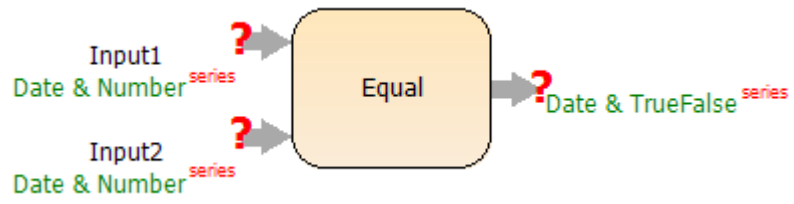


Block diagram for the EPS % Change Latest Qtr plot in the chart above.

Related Articles

- 📖 Earnings per Share (EPS)

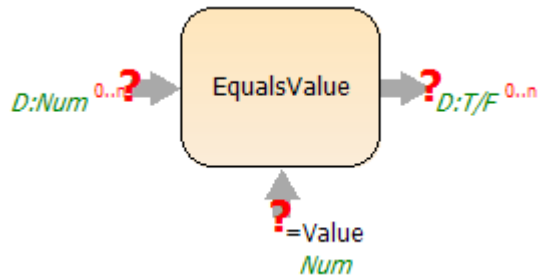
Equal



Description

Returns True when Input1 equals Input2.

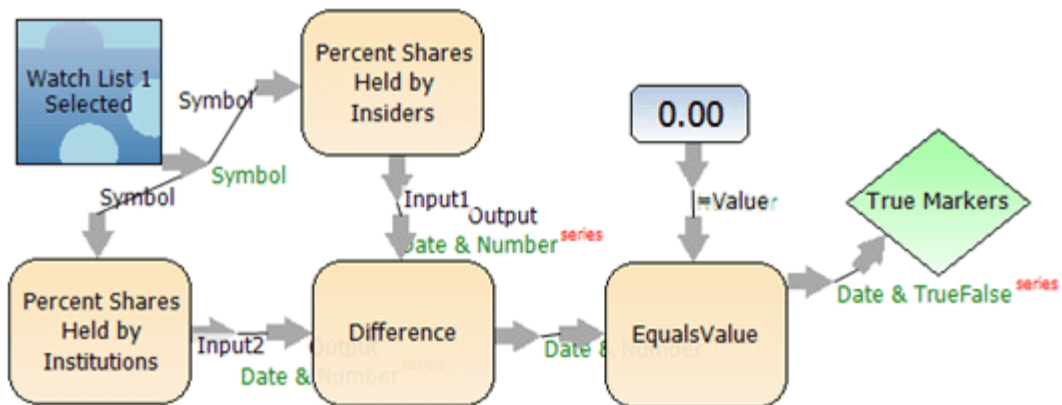
EqualsValue



Description

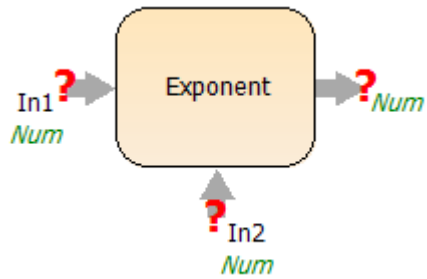
Returns true when the Number provided equals the =Value provided.

Example



The example above plots a True marker when the difference between the percent of shares held by insiders and the percent of shares held by institutions equals 0.

Exponent



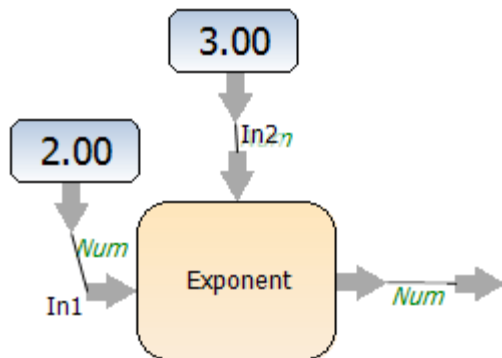
Description

Multiplies In1 by itself a number of times equal to In2.

Definition

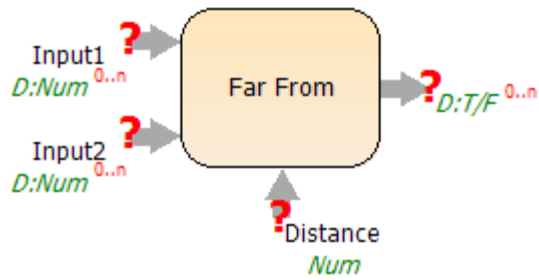
An exponent is a mathematical notation indicating the number of times a quantity is multiplied by itself.

Example



The Example above returns 2^3 or $2 \times 2 \times 2$ which equals 8.

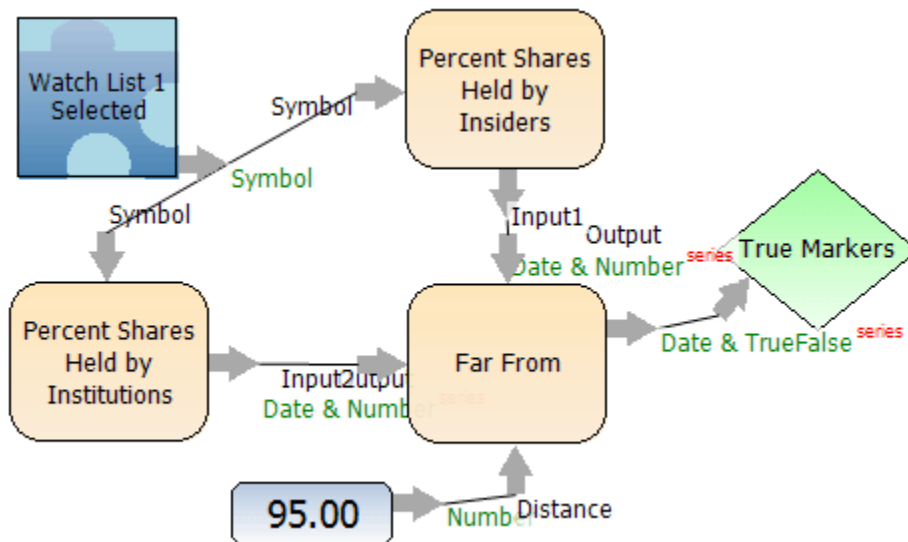
Far From



Description

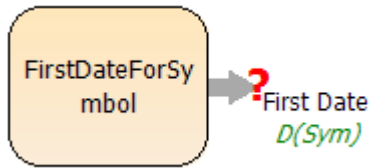
Returns True when the distance between Input1 and Input2 is greater than the Distance provided.

Example



The example above plots a true marker everytime that the difference between the percentage of shares held by institutions and the percentage of shares held by insiders is greater than 95.

FirstDateForSymbol



Description

Returns the Date for the latest day of data for the given Symbol.

.

First Value in Series



Description

Returns the first value in the Date & Number series provided.

Uses:

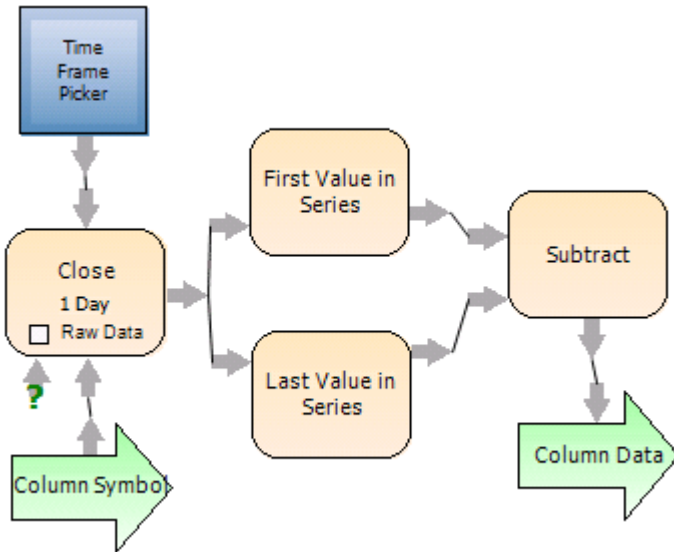
The First Value in Series is used when you want to get the first value in a Date & Number Series.

Example 1:

The following example displays the difference between the last Close price and the first Close price for a stock in a column in the WatchList.

Symbol	Company Name	Num...
GOOG	Google	414.15
ISRG	Intuitive Surgical Inc	205.09
AAPL	Apple Inc	133.23
SHLD	Sears Holding Corp	116.59
WYNN	Wynn Resorts Ltd	111.63
FWLT	Foster Wheeler Ltd	101.50
GRMN	Garmin Ltd	94.40
CDWC	Cdw Corp	84.96
AMZN	Amazon.Com Inc	81.61
RIMM	Research In Motion Ltd	80.46
PCAR	Paccar Inc	77.44
NTUD	NTT Holdings Inc	70.22

The Num column in the WatchList above is the difference between the last Close price and the first Close price of the stock.



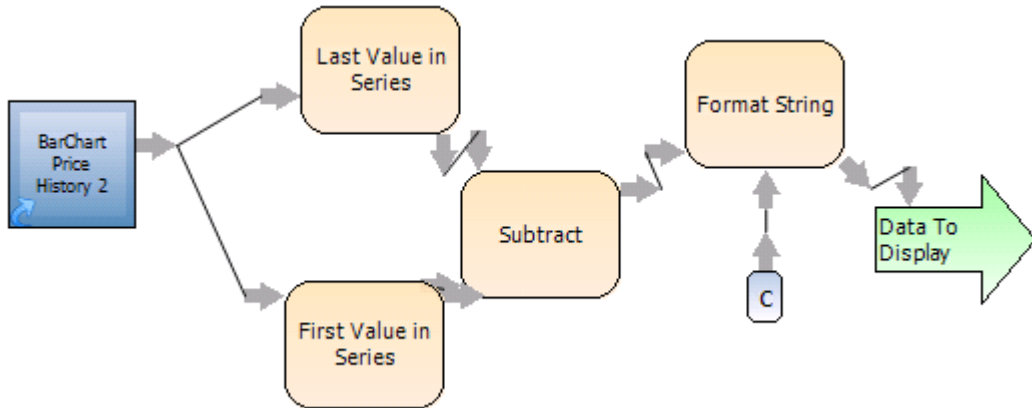
Block diagram for the Num column above.

Example 2:

The following example displays the difference between the first Close price and the Last Close price of the selected symbol in the pointer data column on the chart in Personal Chartist.



The Overall Price Change in the pointer data column uses the First Value in Series block to display the difference between the most current Close price and the first Close price.



Block diagram for the Overall Price Chane data display in the chart above.

Floor

Description

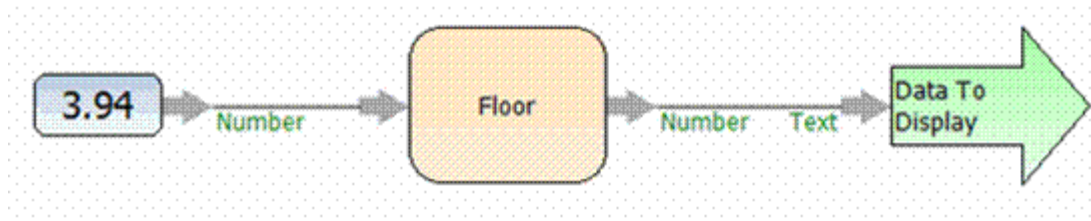
Returns the floor of the Number provided.



Definition

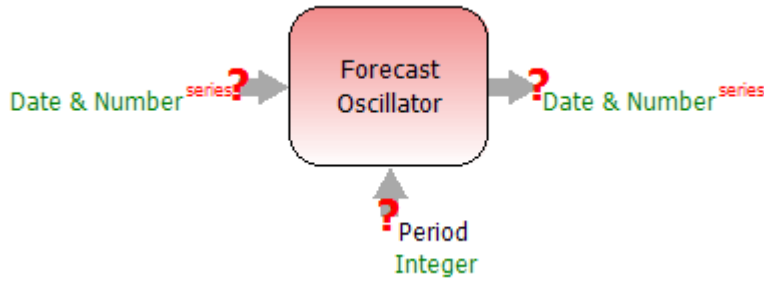
Floor is a statistical function that returns the largest integer less than or equal to a number. In other words, it rounds down to the nearest integer. The floor of 5.9 is 5; the floor of 3 is 3.

Example



The example above will display the number 3 since it is the floor of 3.94.

Forecast Oscillator



Description

Returns the Forecast Oscillator indicator for the period provided.

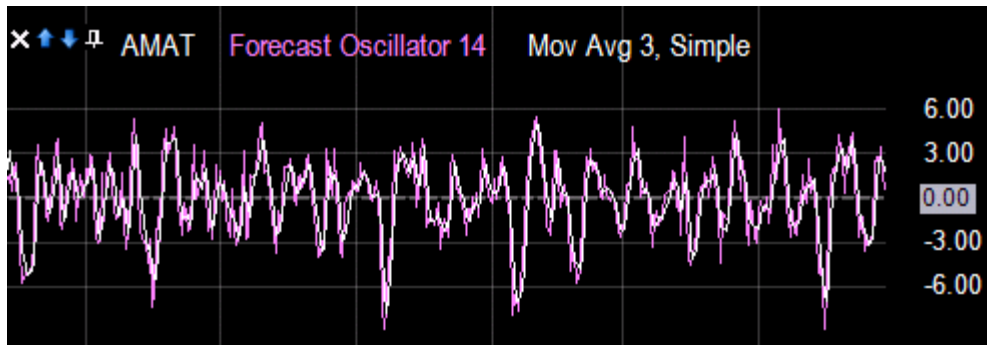
See also the [Forecast Oscillator](#) indicator.

Uses:

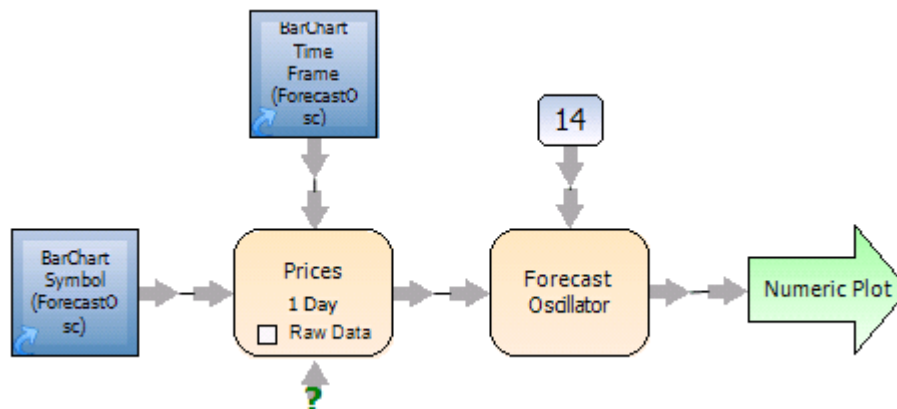
The Forecast Oscillator block is used to display the Forecast Oscillator indicator, either as a single value or as a line plot of earnings over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as a condition in a strategy.

Example:

The following example is the Forecast Oscillator of Price from Personal Chartist.



The Forecast Oscillator 14 plot in the chart above uses the Forecast Oscillator block to plot the indicator.



Block diagram for the Forecast Oscillator 14 plot in the chart above.

Source Code

```
<WBIGuid("1c62e399-8682-430b-b2ee-eca710835f12"),FriendlyName("Forecast Oscillator"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Forecast Oscillator indicator for the period
provided.", "10/17/2006")> _
```

```
Public Class ForecastOscillator
inherits BaseTemplateDLStoDLSPeriod
'Version 1.04
```

```
Public Overrides Sub calculate()
```

```
'-----
' This file is part of the Blocks Code Library.
```

```
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
```

```
' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.
```

```
' You are licensed to use this source code for your own private use.
' It may not be re-distributed or sold without express permission
' from Worden Brothers, Inc..
```

```
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
```

```
' For the source code and more information on this block go to
' kb.Blocks.com And search for "Forecast Oscillator."
```

```
' Changes
```

```
' 1.04 - Added If inputcount < 2 Then Exit Sub
```

```
'-----
If inputcount < 2 Then Exit Sub
```

```
Dim sumCloses As Single
Dim sumSqrdPeriods As Integer
Dim sumPeriodsSqrd As Integer
Dim sumPeriods As Integer
Dim periodNumber As Integer
Dim sumPeriodValue As Single
' Dim slope As Single
' Dim a As Single
' Dim b As Single
Dim prevTSF As Single
```

```
Dim Period As Single
Period = ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount - 2 Then Period = inputcount - 2
```

```
'count up the values for first period calc
For i As Integer = 0 To Period - 2
sumcloses += InputValue(i)
Next
```

```
'count up sum of periods and sum of squared periods
For i As Integer = 1 To Period
sumperiods += i
sumSqrdPeriods += i^2
Next
```

```
sumPeriodsSqrd = sumPeriods^2
```

```

'Calc first prevTSF
'-----

'add values for this period to running tallies
sumcloses += InputValue(Period -1)

periodNumber = 0
sumPeriodValue = 0
'Loop through values in the period
For y As Integer = 0 To Period - 1

    periodNumber += 1

    sumPeriodValue += periodNumber * InputValue(y)

Next

'calc slope for current point
'slope = ((Period*sumPeriodValue) - (sumPeriods * sumCloses))/((Period*sumSqrPeriods)-
sumPeriodsSqr)

'calc linear regression
'b = ((Period*sumPeriodValue)- (sumPeriods * SumCloses))/ ((Period*sumSqrPeriods) -
sumPeriodsSqr)

'a = (sumCloses - (b*sumPeriods))/Period

prevTSF = (((Period*sumPeriodValue) - (sumPeriods * sumCloses))/ _
((Period*sumSqrPeriods)-sumPeriodsSqr)) + ((sumCloses - _
(((Period*sumPeriodValue)- (sumPeriods * SumCloses))/ _
((Period*sumSqrPeriods) - sumPeriodsSqr)*sumPeriods))/Period) + _
(((Period*sumPeriodValue)- (sumPeriods * SumCloses))/ _
((Period*sumSqrPeriods) - sumPeriodsSqr) ) * Period)

'Lob off unneeded values from tallies
sumcloses -= Me.CodeBlock.InputValue(0)

'-----

'Calc Forecasts
For i As Integer = Period To InputCount -1

    Me.CodeBlock.AddToOutput(InputDate(i), _
        ((InputValue(i) - prevTSF)/InputValue(i))*100)

'add values for this period to running tallies
sumcloses += InputValue(i)

periodNumber = 0
sumPeriodValue = 0
'Loop through values in the period
For y As Integer = (i - (Period - 1)) To i

    periodNumber += 1
    sumPeriodValue += periodNumber * InputValue(y)

```

Next

'calc slope for current point

'slope = ((Period*sumPeriodValue) - (sumPeriods * sumCloses))/((Period *sumSqrPeriods)-
sumPeriodsSqr)

'calc linear regression

' b = ((Period*sumPeriodValue)- (sumPeriods * SumCloses))/ ((Period*sumSqrPeriods) -
sumPeriodsSqr)

' a= (sumCloses - (b*sumPeriods))/Period

prevTSP = (((Period*sumPeriodValue) - (sumPeriods * sumCloses))/ _
((Period *sumSqrPeriods)-sumPeriodsSqr)) + ((sumCloses - _
(((Period*sumPeriodValue)- (sumPeriods * SumCloses))/ _
((Period*sumSqrPeriods) - sumPeriodsSqr))*sumPeriods))/Period) + _
(((Period*sumPeriodValue)- (sumPeriods * SumCloses))/ _
((Period*sumSqrPeriods) - sumPeriodsSqr))*Period)

'Lob off unneeded values from tallies

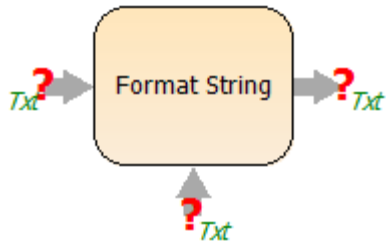
sumcloses -= InputValue(i - (Period-1))

Next

End Sub

End Class

Format String



Description

Applies a String Format Code to a string. The links below show all the different types of formatting available and the corresponding string that should be entered into the Format String block.

[Pre-defined numeric formats](#)

[User-defined numeric formats](#)

[Pre-defined Date/Time formats](#)

[User-defined Date/Time formats](#)

Uses:

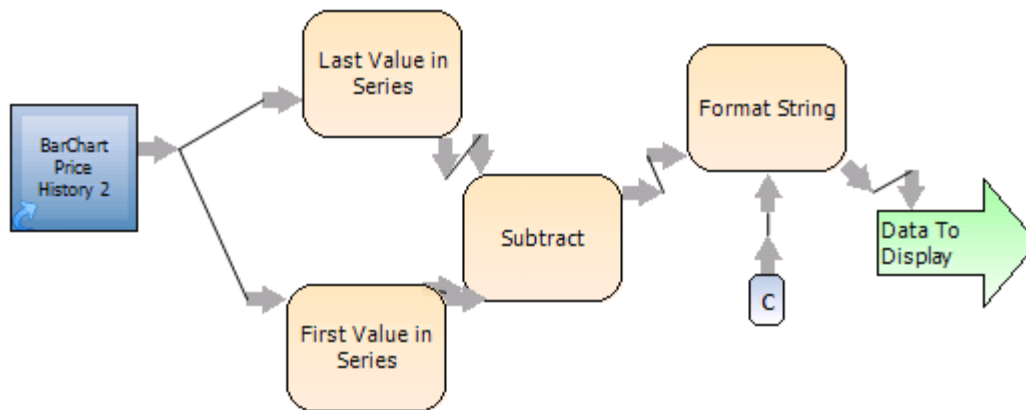
The String Format block is used to format the incoming text. This has a multitude of uses including turning a number into a currency format, changing the incoming number to scientific notation, changing the way the incoming date is displayed, etc. Uses include formatting strings for use in labels, columns and data displays.

Example:

The following example formats the Overall Price Change data display in the pointer data column. The text 'c' is passed into the Format String block which tells the block to display the number as currency. For all the formatting options available, see the links above under Description.

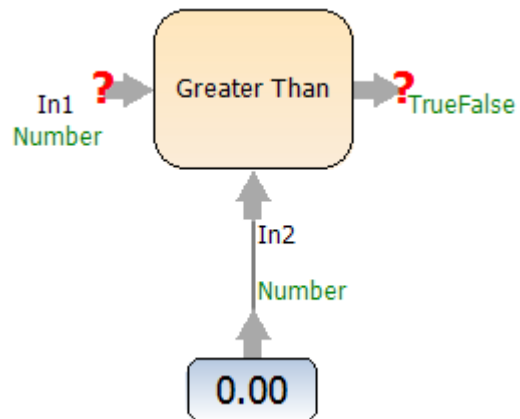


The Overall Price Change data display in the pointer data column uses the Format String block to display the number as US currency.



Block diagram for the Overall Price Change data display in the chart above. Passing in 'c' to the format string block tells the block to format the value as currency. See the links above under Description for all the possible formatting options.

Greater Than



Description

Returns True when Input1 is greater than Input2.

Uses:

The greater than block is used anytime you want to compare one single value to another single value. Uses include coloring column and data display text and backgrounds.

Example 1:

The example below colors the background of the % Chng column green if the percent change is greater than 0, otherwise it colors it red.

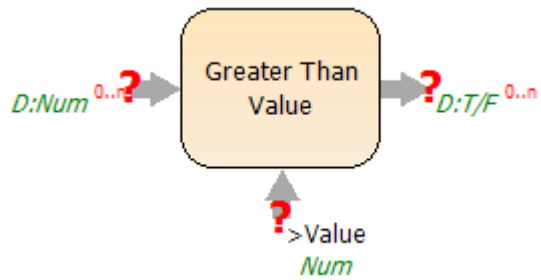
Watch List		
Nasdaq 100 Component Stocks		
WatchList	Strategy	Performance
Main List	Ind	Sub
Symbol	Company Name	% Change
AAPL	Apple Inc	1.62
ADBE	Adobe Systems Inc	-0.07
ADSK	Autodesk Inc	0.58
AKAM	Akamai Technologies Inc	1.39
ALTR	Altera Corp	0.13
AMAT	Applied Materials Inc	1.16
AMGN	Amgen Inc	-0.22
AMLN	Amylin Pharmaceuticals	1.14
AMZN	Amazon.Com Inc	-0.47
APOL	Apollo Group Inc Cl A	-0.61
ATVI	Activision Inc	0.90
BBBY	Bed Bath & Beyond Inc	-1.53
BEAS	Bea Systems Inc	0.92
BIIB	Biogen Idec Inc	2.75
BRCM	Broadcom Corp Cl A	2.68
CDNS	Cadence Design Systems	0.27

The % Change column's background is colored green if percent change is greater than zero. Otherwise it is red.



Block diagram for the % Change column above.

Greater Than Value (Date & Number)



Description

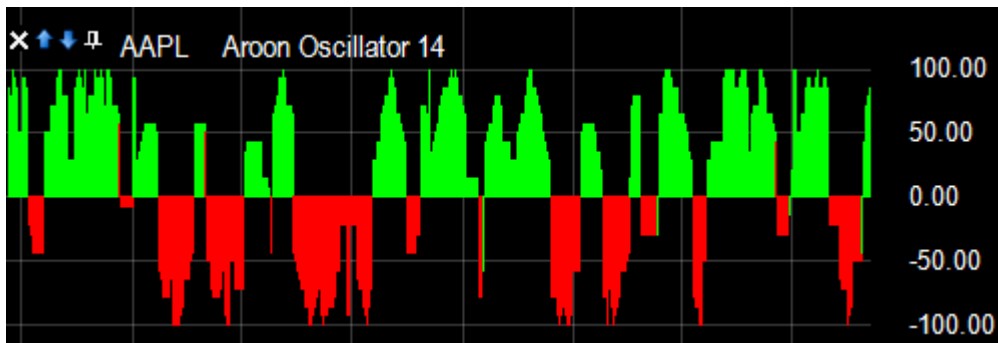
Returns True when the number provided is greater than the >Value provided.

Uses:

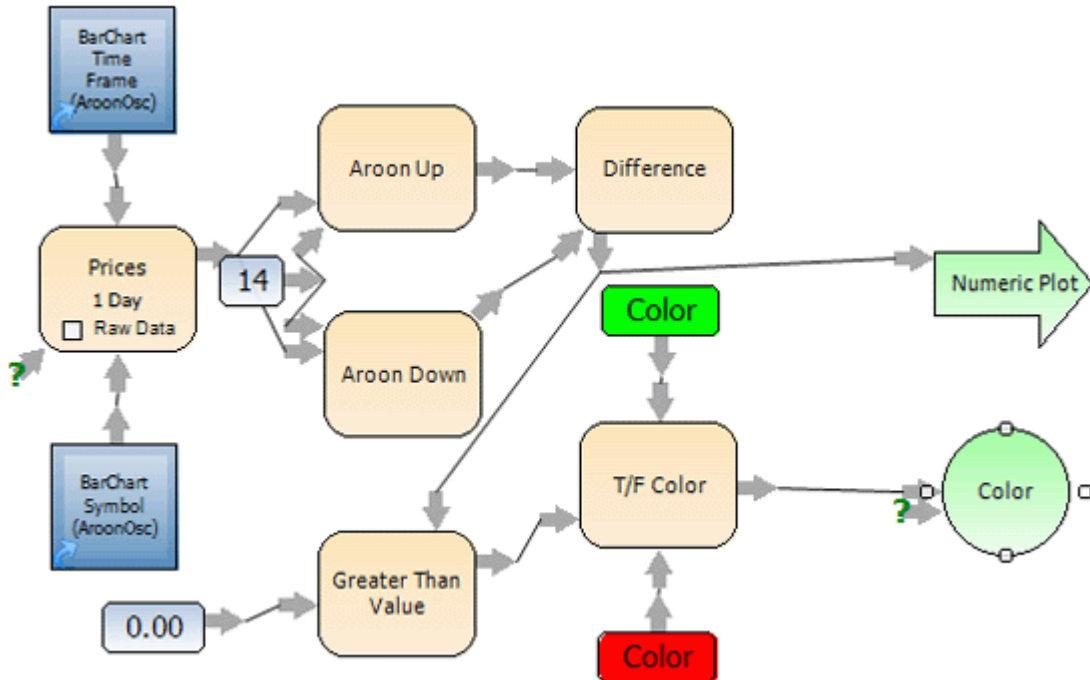
The Greater Than Value block is used anytime you want to compare all the values in a Date & Number Series to single value. Uses include coloring lines, creating strategies and placing markers on a chart.

Example 1:

The following example is the Aroon Oscillator Personal Chartist Study. The greater than value block is used to color the study green when it is greater than zero and red when it is not.



The Aroon Oscillator plot above is colored green when it is greater than zero and red when it is not.



Block diagram for the Aroon Oscillator plot above.

Example 2:

The following example uses the Momentum strategy from Personal Chartist to place Buy markers when Momentum is greater than 100. It then places a Sell marker when Momentum is less than 100.

Buy

Momentum 10, >, 100.00, True 1, of 1, 1 Day

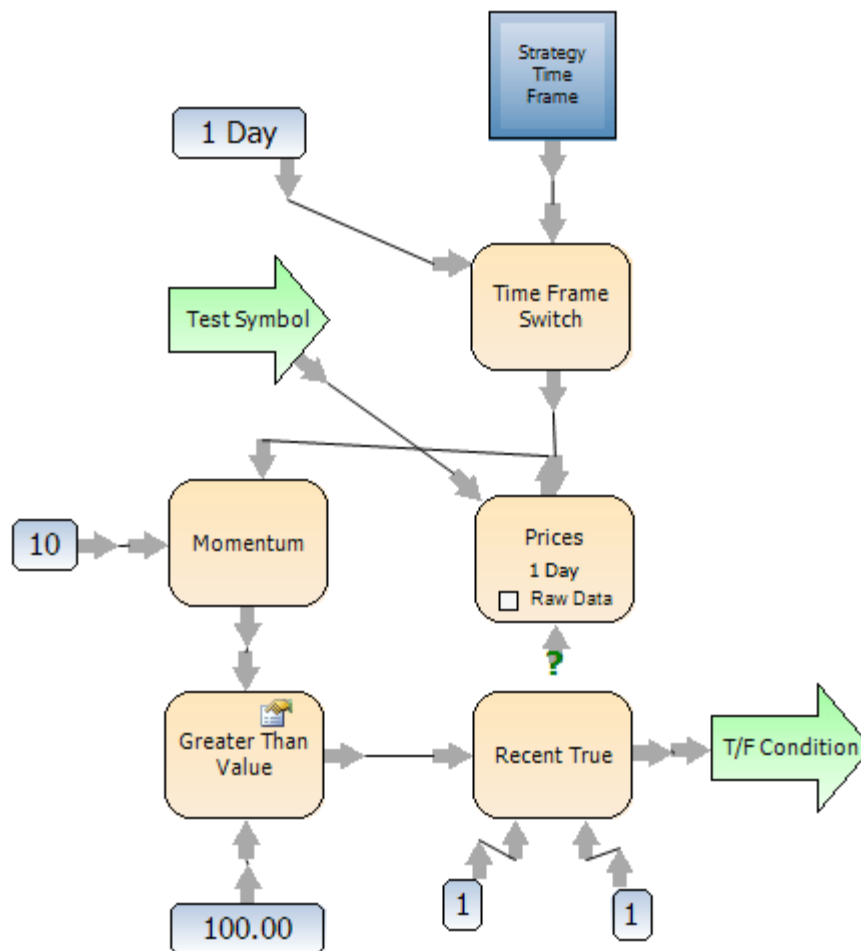
Sell

Momentum 10, <, 100.00, True 1, of 1, 1 Day

Buy markers are placed when the 10 period Momentum is greater than 100, and Sell markers when Momentum is less than 100.



Buy markers when Momentum is greater than 100 and Sell markers when Momentum is less than 100.



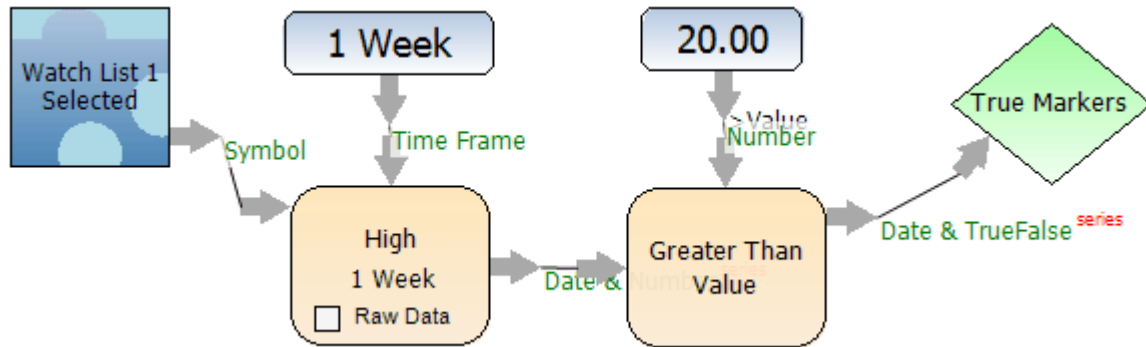
Block diagram for the Buy strategy in the chart above.

Example 3:

The following example places True markers on the chart anytime that the weekly High is greater than \$20.

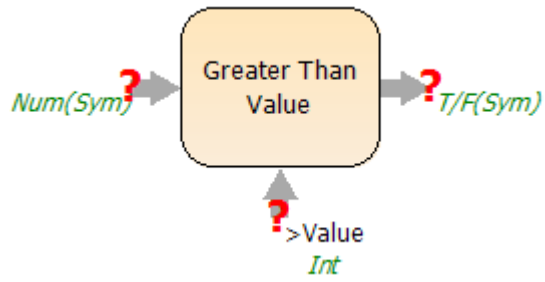


A True marker is placed on the chart anytime that the weekly High is greater than \$20.



Block diagram for the True markers in the chart above.

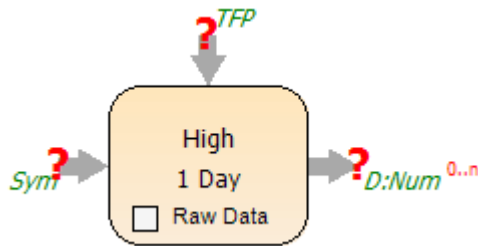
Greater Than Value (Number(Symbol))



Description

Returns True if the number provided is greater than the >Value provided.

High



Description

Returns High prices for the symbol provided for the timeframe provided. When the Raw Data checkbox is checked, the timeframe connector's incoming value is not applied to the output BUT it does effect what type of data is provided to the block itself. For instance, if you have a 1 Day block connected to the Time Frame input and the Raw Data checkbox is checked, Blocks will ensure that the data coming into the block will be able to be converted to that timeframe. This is useful if you know you need a certain type of data (i.e. daily data) for calculations farther on down in your block diagram but you don't necessarily want to display your data in that time frame right now.

Uses:

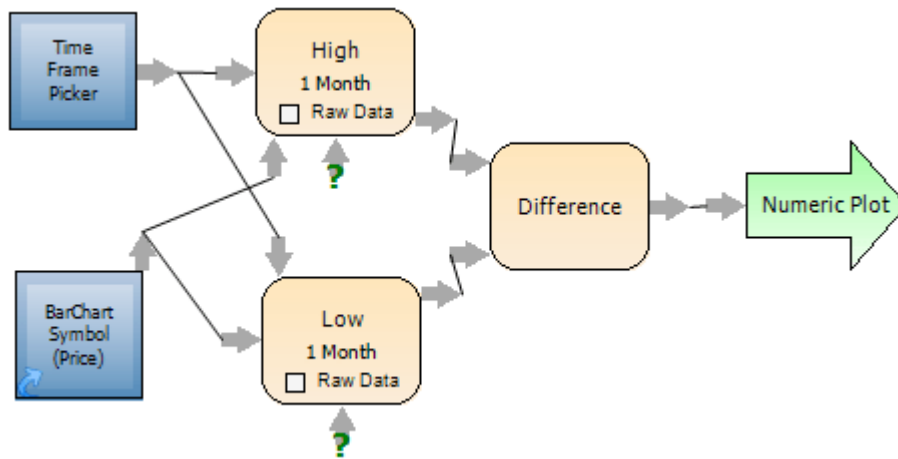
The High block is used anytime you want to get access to the High prices for a Symbol. Uses include studies, strategies and values in columns.

Example:

The following example plots the difference between the High and Low for each bar in the Price History plot.

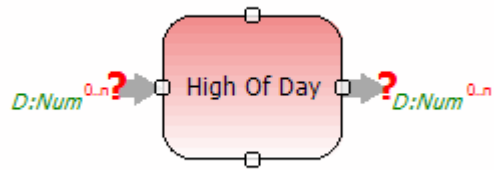


The High minus Low plot above uses the High block along with the Low block to plot the difference between the High and the Low for each bar in the Price History plot in the top pane.



Block diagram for the High minus Low plot in the chart above.

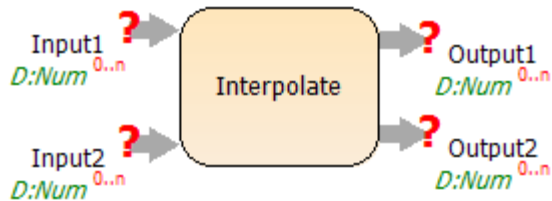
High of Day



Description

Returns the highest value by date in a date/number series. If you pass in Daily data, it will return the High for each market day. If you pass in minute data, it will return the highest high for each date.

Interpolate



Description

Interpolates the value for two given inputs when the inputs do not have matching dates, and returns two lines with identical dates with interpolated values where needed.

Definition

Interpolation is a method for estimating data points that fall between points of actual measurement. For example, if the data for 1992 and 1994 are 5 and 10 respectively, one could interpolate from that data that the value was 7.5 (at the midpoint) in 1993.

Uses:

The Interpolate block is often used to compare data that is in different timeframes as in the example below. It's uses include constructing True markers on a chart, conditions in a strategy and values in columns.

Example:

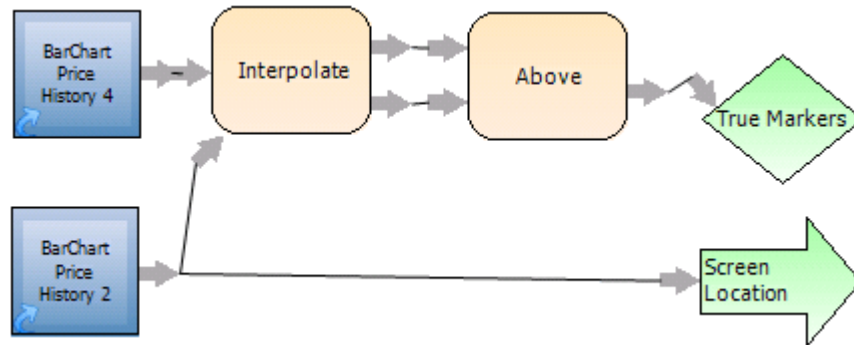
The following example shows True markers that represent when the *daily* Close price of AMAT is above the *monthly* Close price of ALTR. Notice in the first chart (Figure 1), there are a lot less True markers than in the second chart (Figure 2). This is because the first chart does not use an Interpolate block to generate daily values from the monthly data being provided by ALTR which means it can only compare the daily values that have a corresponding monthly value with the same date. The second chart fixes this issue by using the Interpolate block.



Figure 1. True markers can only be evaluated on the dates where there is both a monthly price for ALTR and a daily price for AMAT.

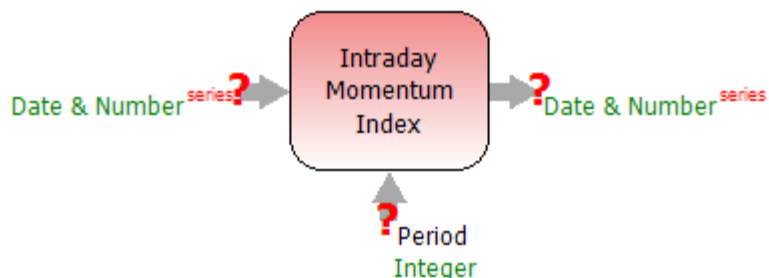


Figure 2. By using the Interpolate block, True markers can be evaluated for every point on the daily AMAT plot. This is accomplished by using the interpolate block to generate interpolated values for all the days between the monthly values of ALTR.



Block diagram for the True markers in Figure 2. Using the Interpolate block ensures that there is a value for ALTR for each date or AMAT.

Intraday Momentum Index



Description

Returns the Intraday Momentum Index indicator for the period provided.

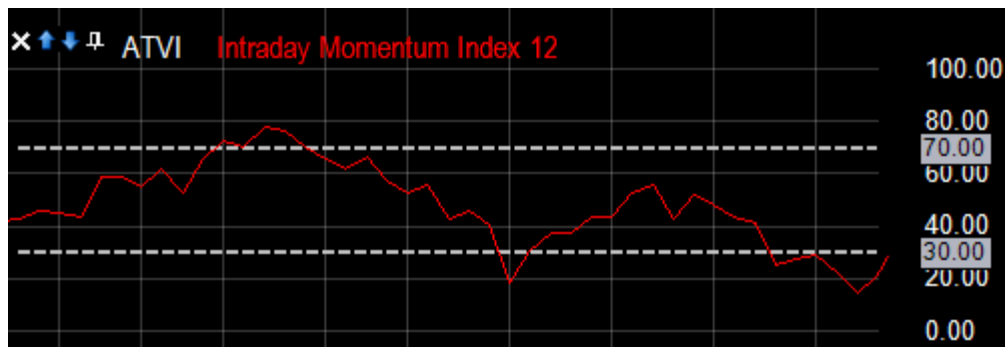
See also the [Intraday Momentum](#) indicator.

Uses:

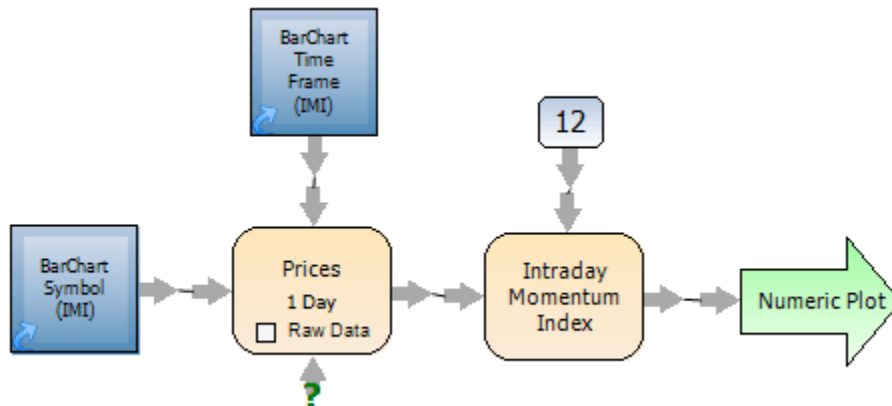
The Intraday Momentum Index block is used to calculate the Intraday Momentum Index indicator for use in studies, strategies and tools within blocks including data displays and columns.

Example:

The following example is the Intraday Momentum Index Personal Chartist Study.



The Intraday Momentum Index 12 plot uses the Intraday Momentum Index block to plot the indicator.



Block diagram for the Intraday Momentum Index 12 plot in the chart above.

Source Code

```
<WBIGuid("a8d75bda-eb54-4177-b628-7e8e6bb09b65"),FriendlyName("Intraday Momentum Index"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Intraday Momentum Index indicator for the
period provided.", "10/18/2006")> _
Public Class IntradayMomentumIndex
Inherits BaseDLBtoDLSPeriod
'Version 1.03
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
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' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.Blocks.com And search for "Intraday Momentum Index."
'
' Changes
' 1.03 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim sumUpDifs As Single
Dim sumDnDifs As Single
Dim difTemp As Single
Dim Period As Single
Period = ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount -2 Then Period = inputcount - 2

For i As Integer = Period - 1 To InputCount -1
sumupdifs = 0
sumDnDifs = 0
'Loop through values in the period
For y As Integer = (i - (Period - 1)) To i
difTemp = InputLast(y) - InputOpen(y)

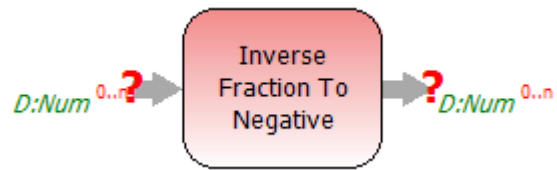
If difTemp > 0 Then
sumUpDifs += difTemp
Else
sumDnDifs += system.Math.Abs(difTemp)
End If

Next

If sumUpDifs + sumDnDifs = 0 Then
```

```
AddToOutput(InputDate(i), 0)
Else
AddToOutput(InputDate(i), ((sumUpDifs/(sumUpDifs + sumDnDifs))*100))
End If
Next
End Sub
End Class
```

Inverse Fraction To Negative



Last Value in Series



Description

Returns the last value in the Date & Number series provided.

Uses:

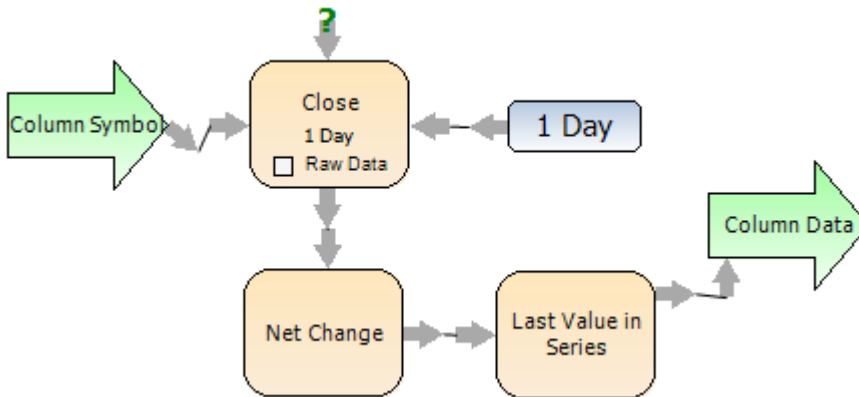
The Last Value in Series has many uses including getting values to put in columns and labels. This block is also very useful in creating various indicators and studies.

Example 1:

The following example is a column that displays the latest net change for each symbol in the table.

Watch List		
Nasdaq 100 Component Stocks		
WatchList	Strategy	Performance
Main List	Ind	Sub
Symbol	Company Name	Net Chng
IACI	IAC/Interactive Corp	0.03
ALTR	Altera Corp	0.03
DISCA	Discovery Holding Co Clas	-0.03
ADBE	Adobe Systems Inc	-0.03
LINTA	Liberty Media Interactive	-0.03
PETM	Petsmart Inc	0.04
PTEN	Patterson-Uti Energy Inc	-0.04
INTU	Intuit Inc	0.05
YHOO	Yahoo! Inc	0.06
CHKP	Check Point Software Tec	-0.06
ORCL	Oracle Corporation	0.08
JAVA	Sun Microsystems Inc	0.08
PCAR	Paccar Inc	0.08
SIRI	Sirius Satellite Radio	0.08
CDNS	Cadence Design Systems	0.08
GILD	Gilead Sciences Inc	0.09
ERIC	Lm Ericsson Telephone C	-0.09
LVLT	Level 3 Communications	0.10

The column Net Chng displays the last Net Change value for each symbol using the Last Value in Series block.



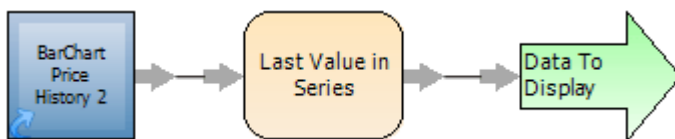
Block diagram for the Net Chng column above.

Example 2:

The following example puts the last close price in a data display on the toolbar of a chart.

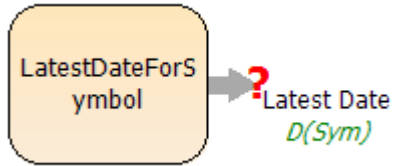


The Close price is display in a data display in the upper right of the chart's toolbar.



Block diagram for the Close price data display above.

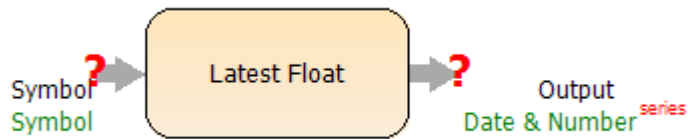
LatestDateForSymbol



Description

Provides the Date for the Latest Day of data for the given Symbol

Latest Float



Definition

Latest shares outstanding minus shares held by insiders. Reported in 1000's.

Uses:

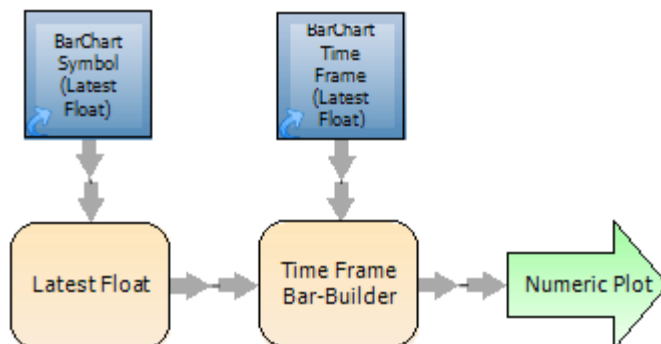
The Latest Float block is used to calculate the Latest Float indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Latest Float Personal Chartist Study.



The Latest Float plot uses the Latest Float block to plot the indicator.



Block diagram for the Latest Float plot in the chart above.

Latest Net Profit Margin



Description

Returns the latest net profit margin indicator for the Symbol provided.

Definition

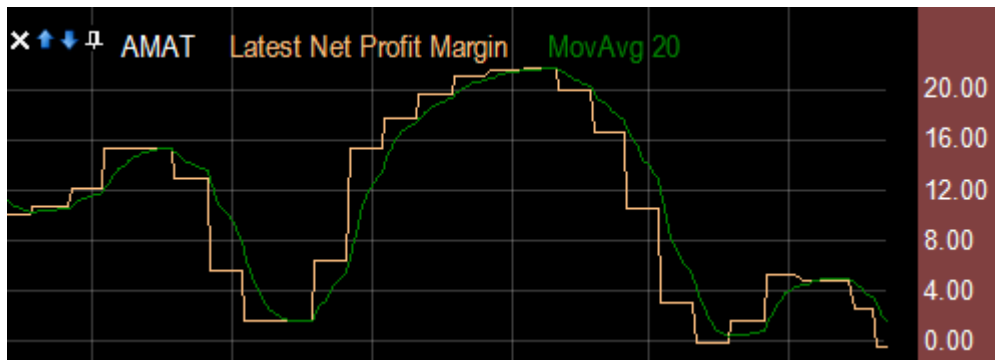
The after-tax Net Income from Total Operations of the latest 4 quarters, divided by the latest 4 quarters Operating Revenues.

Uses:

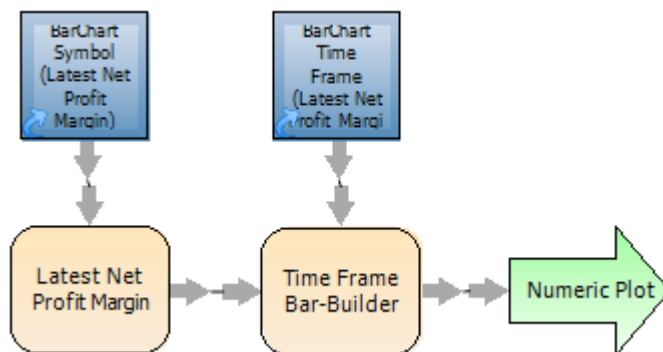
The Latest Net Profit Margin block is used to calculate the Latest Net Profit Margin indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Latest Net Profit Margin Personal Chartist Study.



The Latest Net Profit Margin plot uses the Latest Net Profit Margin block to plot the indicator.



Block diagram for the Latest Net Profit Margin plot in the chart above.

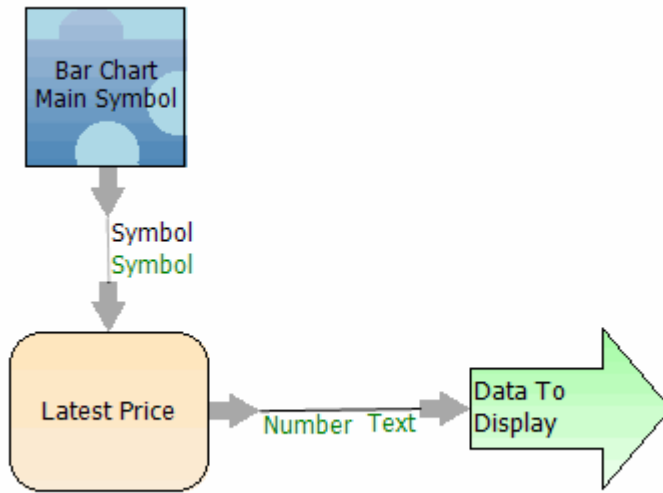
Latest Price

Description

Provides the latest price from the most current feed (depending on feed order) for the supplied symbol. The block will always use the first real time feed in the feed order. If there is not a real time feed available, it will use the first daily data feed in the list.



This example block diagram is for a Data Display. It will show the latest price for the supplied symbol.



Latest Short Interest Ratio



Description

Returns the latest short interest ratio for the Symbol provided.

Definition

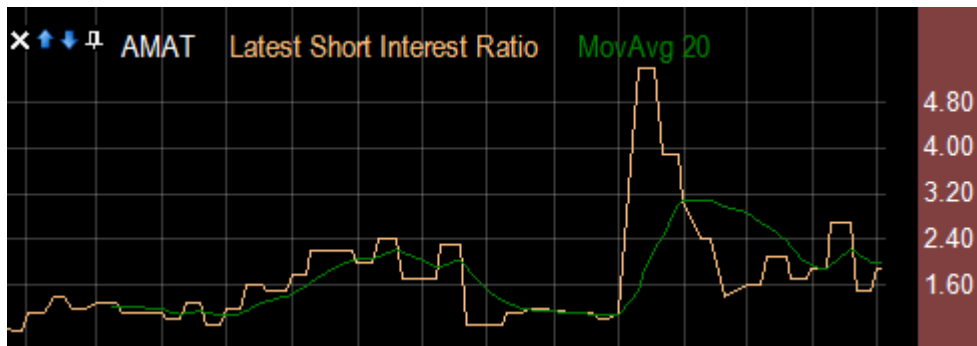
The short interest shares divided by average daily volume, representing the number of days of average trading needed to cover the shorts.

Uses:

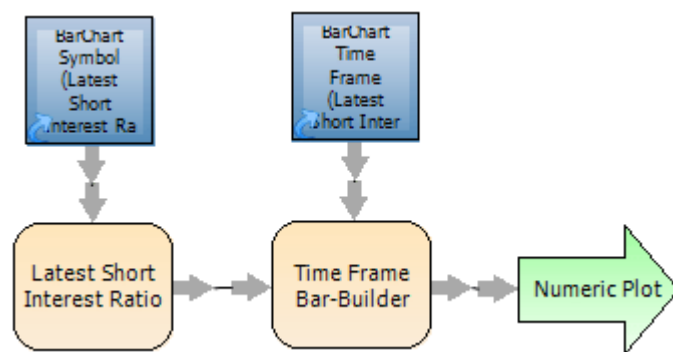
The Latest Short Interest Ratio block is used to calculate the Latest Short Interest Ratio indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Latest Short Interest Ratio Personal Chartist Study.

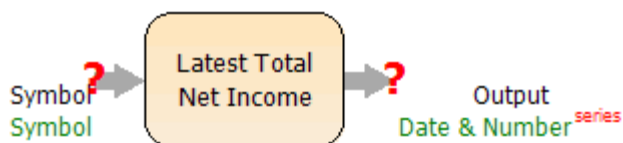


The Latest Short Interest Ratio plot uses the Latest Short Interest Ratio block to plot the indicator.



Block diagram for the Latest Short Interest Ratio plot in the chart above.

Latest Total Net Income



Description

Returns the latest total net income for the Symbol provided.

Definition

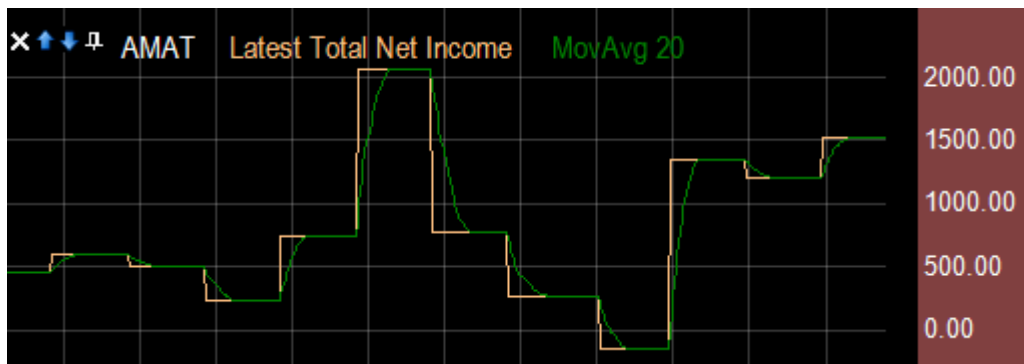
Includes all the operations (continuing and discontinued) AND all the other income or charges (extraordinary, accounting changes, tax loss carryforward, and other gains and losses).

Uses:

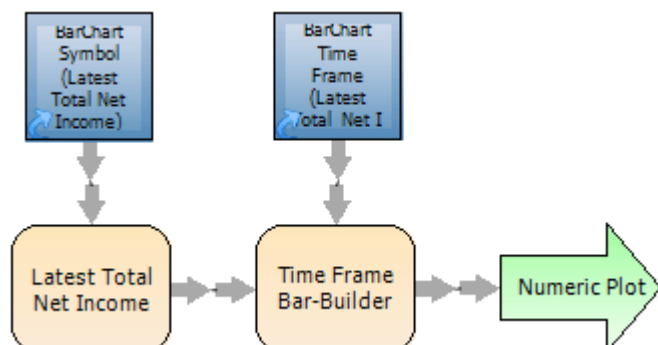
The Latest Total Net Income block is used to calculate the Latest Total Net Income indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Latest Total Net Income Personal Chartist Study.



The Latest Total Net Income plot uses the Latest Total Net Income block to plot the indicator.



Block diagram for the Latest Total Net Income plot in the chart above.

Legend Display

Legend Prefix	
QuickEdit Field Name	Text
Show In Legend	True
Show in QuickEdit	False

Ok



Description

Allows for display of text in a Legend. Click the icon in the block to edit its properties.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text will show up in the legend.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Uses:

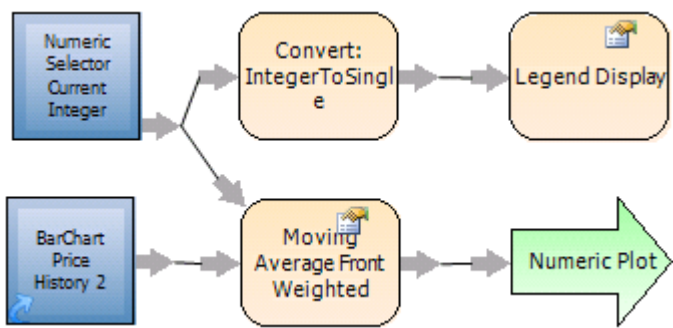
The Legend Display block can be used anytime you want to display information in the legend display of a chart. The Legend Display block can be used in several places including in the block diagrams of plots within your chart and also within the Symbol block diagram for the chart.

Example 1:

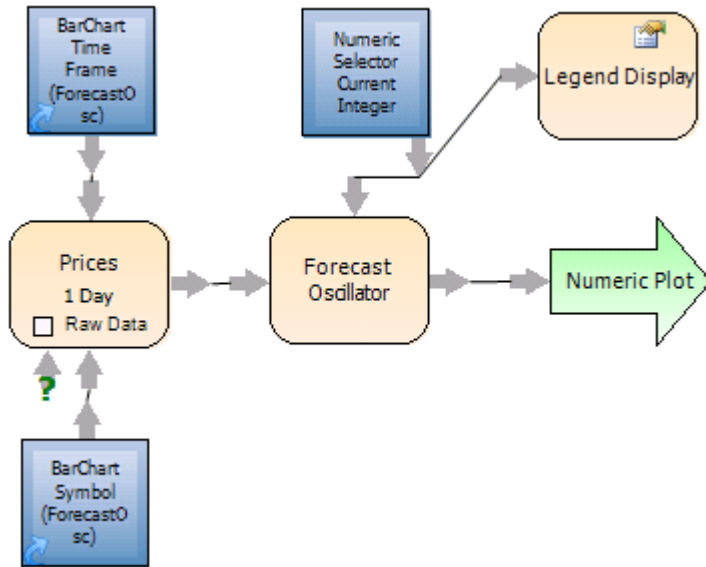
The following example generates the period value within the legend for MovAvg and Forecast Oscillator using the Legend Display block. Since both the MovAvg and Forecast Oscillator plots get their period value from the numeric selector in the upper right of the chart, it would be useful to be able to display that period value within the legend for those plots.



The numeric selector in the upper right is the period for both the MovAvg and Forecast Oscillator plots. The Legend Display block makes it possible to display the 12 from the numeric selector in the legend display for both plots.



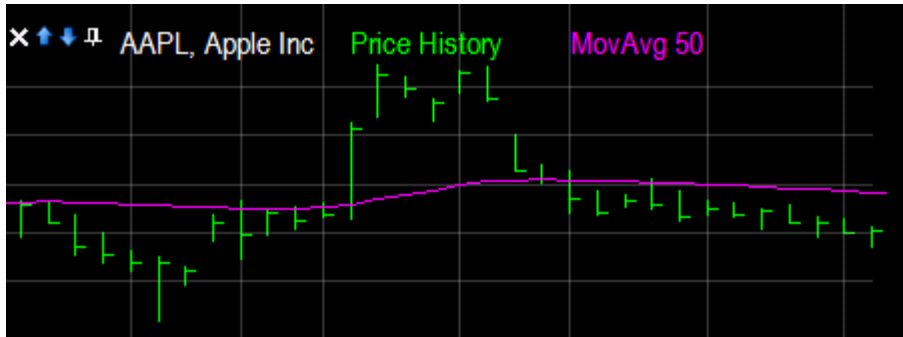
Block diagram for the MovAvg plot in the chart above.



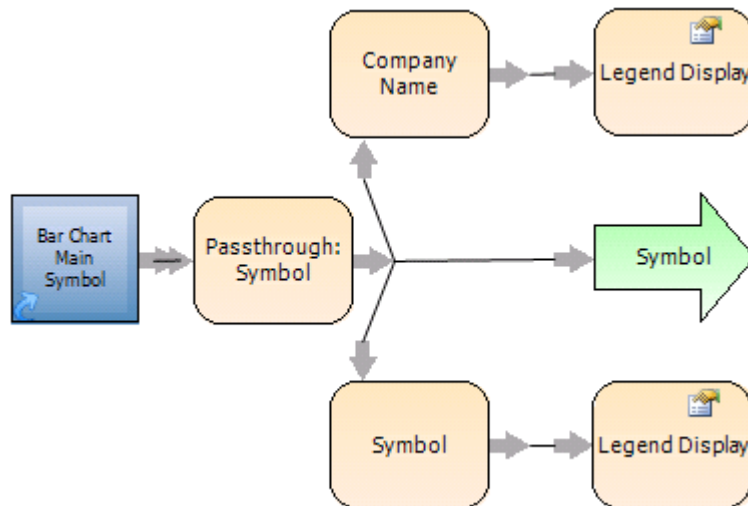
Block diagram for the Forecast Oscillator plot in the chart above.

Example 2:

The following example is the symbol and company name as it is shown in Personal Chartist. The "AAPL, Apple Inc" part of the legend is generated from within the block diagram for the Chart's symbol.



The "AAPL, Apple Inc" in the legend is generated using the Legend Display block inside the block diagram for the chart's symbol.



Block diagram for the "AAPL, Apple Inc" part of the legend in the chart above.

Less Than

Description

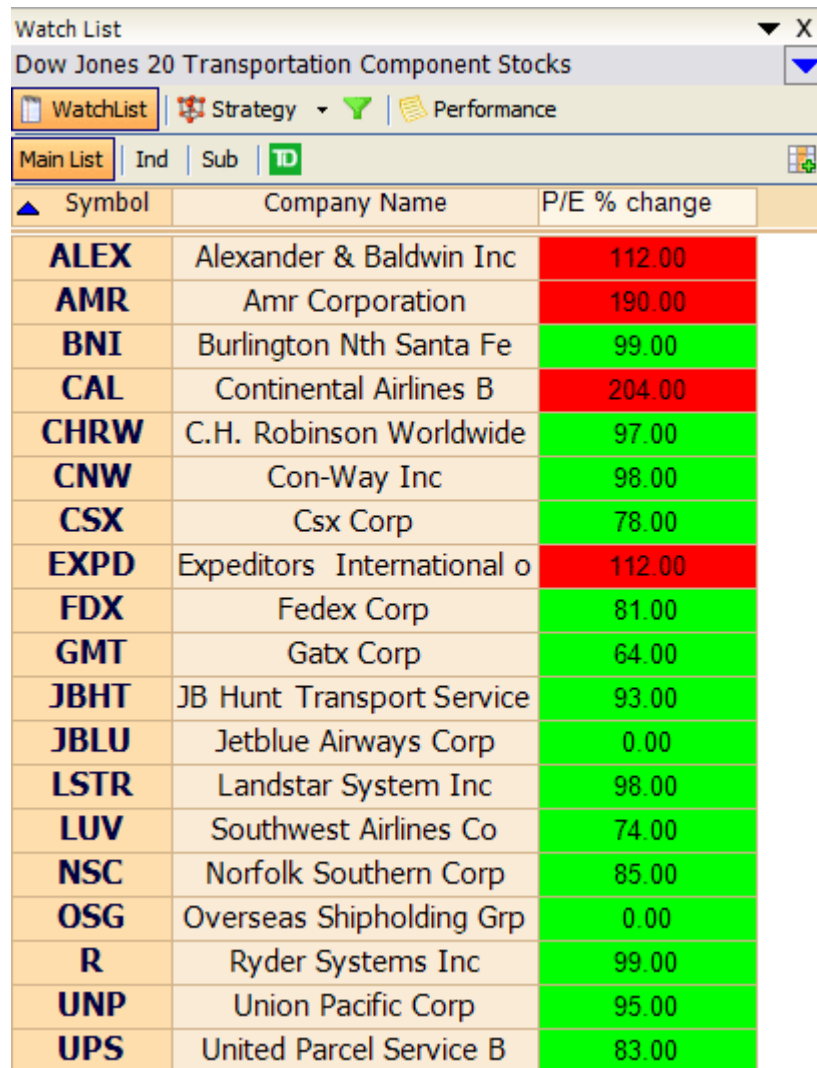
Returns true when input1 is less than input2. Otherwise it returns false.

Uses:

The Less Than block is used anytime you want to compare one single value to another single value. Uses include coloring column and data display text and backgrounds.

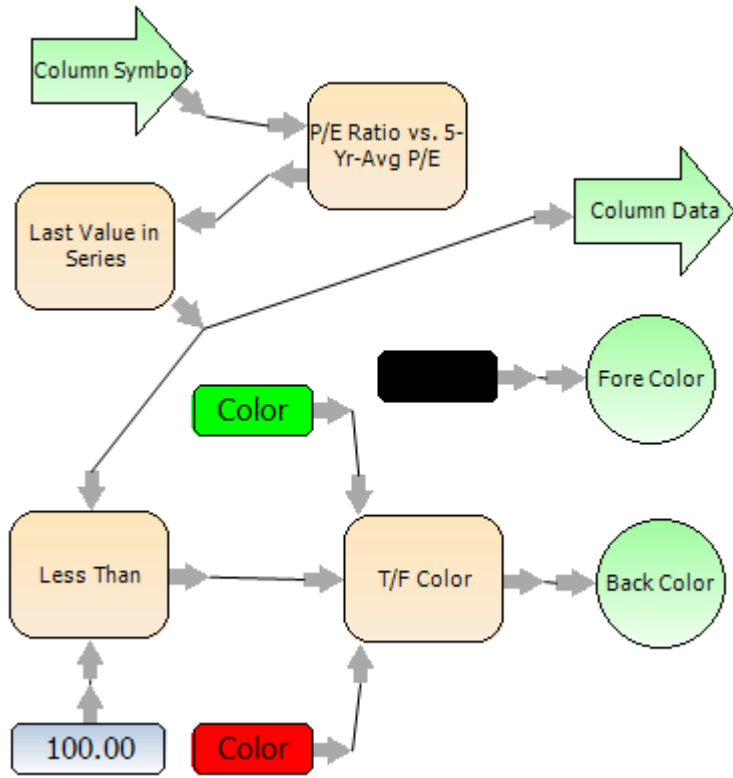
Example:

The example below colors the background of the P/E % Change column green if the percent change is less than 100. Otherwise the background is colored red.



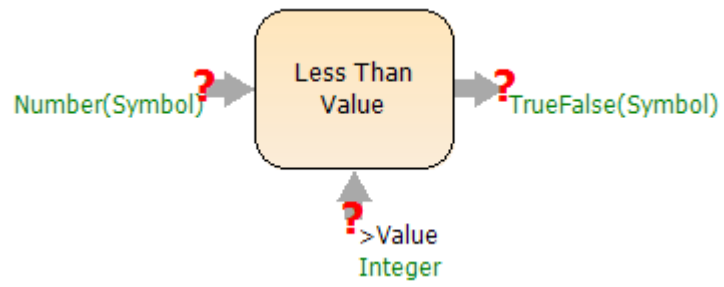
Symbol	Company Name	P/E % change
ALEX	Alexander & Baldwin Inc	112.00
AMR	Amr Corporation	190.00
BNI	Burlington Nth Santa Fe	99.00
CAL	Continental Airlines B	204.00
CHRW	C.H. Robinson Worldwide	97.00
CNW	Con-Way Inc	98.00
CSX	Csx Corp	78.00
EXPD	Expeditors International o	112.00
FDX	Fedex Corp	81.00
GMT	Gatx Corp	64.00
JBHT	JB Hunt Transport Service	93.00
JBLU	Jetblue Airways Corp	0.00
LSTR	Landstar System Inc	98.00
LUV	Southwest Airlines Co	74.00
NSC	Norfolk Southern Corp	85.00
OSG	Overseas Shipholding Grp	0.00
R	Ryder Systems Inc	99.00
UNP	Union Pacific Corp	95.00
UPS	United Parcel Service B	83.00

The P/E % Change column's background is colored green if the percent change is less than zero. Otherwise it is red.



Block diagram for the P/E % Change column above.

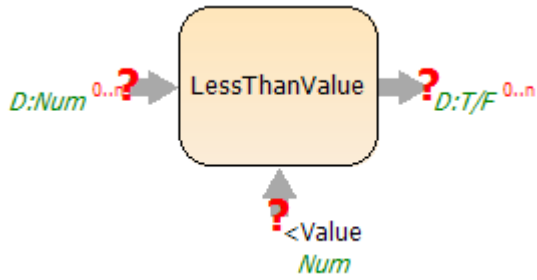
Less Than Value



Description

Returns True when the Number provided is less than the <Value provided.

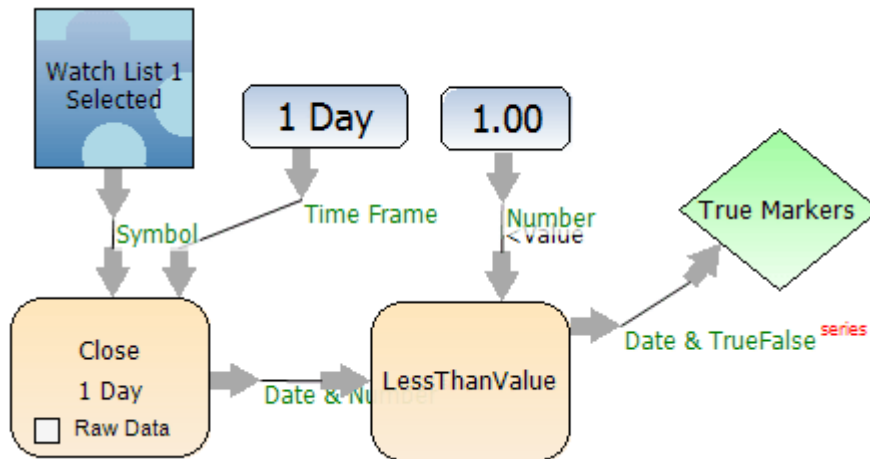
LessThanValue



Description

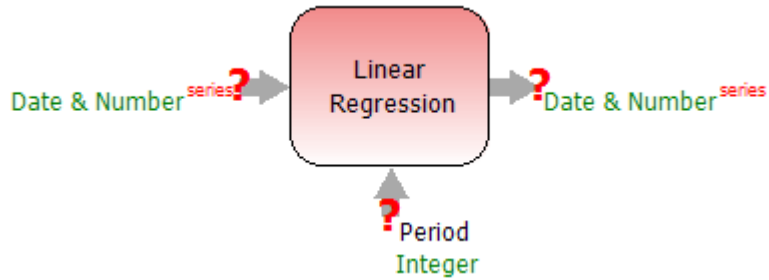
Returns True when the Number provided is less than the <Value provided.

Example



The example above plots a True marker when the incoming value is less than 1.00 and no marker when the incoming value is not less than 1.00.

Linear Regression



Description

Returns the Linear Regression indicator for the period provided.

See also the [Linear Regression](#) indicator.

Uses:

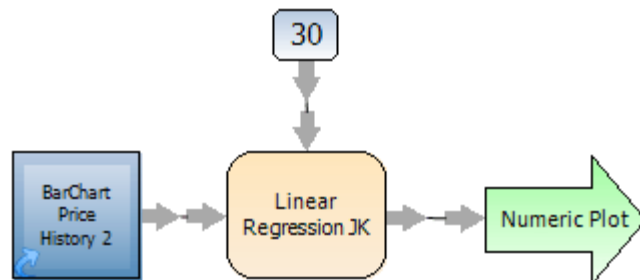
The Linear Regression block is used to display the Linear Regression indicator, either as a single value or as a line plot of earnings over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as a condition in a strategy.

Example:

The following example is the Linear Regression study from Personal Chartist. In this example the linear regression is calculated off of the Price History plot.



The Linear Regression 30 plot above uses the Linear Regression block to plot the indicator.



Block diagram for the Linear Regression 30 plot in the chart above.

Source Code

```
<WBIGuid("4874d1d4-bece-43e2-80b2-955bfaeca4f7"),FriendlyName("Linear Regression JK"), _  
ClassAuthor("The Blocks Company,LLC - JK", "Provides Linear Regression for the period provided.",  
"10/17/2006")>
```

Public Class LinearRegressionJK

'Version 1.06

Inherits BaseTemplateDLStoDLSPeriod

Public Overrides Sub calculate()

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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.

' For the source code and more information on this block go to
' kb.Blocks.com And search for "Linear Regression."

' Changes

' 1.05 - Added If inputcount < 2 Then Exit Sub

' 1.06 - changed all integer variables to longs to enable periods
' greater than 303

If inputcount < 2 Then Exit Sub

Dim sumCloses As Single

Dim sumSqrPeriods As Long

Dim sumPeriodsSqr As Long

Dim sumPeriods As Long

Dim periodNumber As Long

Dim sumPeriodValue As Single

Dim slope As Single

Dim a As Single

Dim b As Single

Dim Period as single = Me.CodeBlock.ParameterValue

If Period < 2 Then Period = 2

If Period > inputcount - 2 Then Period = inputcount - 2

'count up the values for first period calc

For i As Integer = 0 To Period - 2

sumcloses += InputValue(i)

Next

'count up sum of periods and sum of squared periods

For i As Integer = 1 To Period

sumperiods += i

sumSqrPeriods += i^2

Next

sumPeriodsSqr = sumPeriods^2

For i As Integer = Period - 1 To InputCount -1

'add values for this period to running tallies

```

sumcloses += InputValue(i)

periodNumber = 0
sumPeriodValue = 0
'Loop through values in the period
For y As Integer = (i - (Period - 1)) To i

    periodNumber += 1

    sumPeriodValue += periodNumber * InputValue(y)

Next

'calc linear regression
If sumPeriodsSqr = 0 Then sumPeriodsSqr = 1
    b = ((Period*sumPeriodValue)- (sumPeriods * SumCloses))/((Period*sumSqrPeriods) -
sumPeriodsSqr)
    a= (sumCloses - (b*sumPeriods))/Period

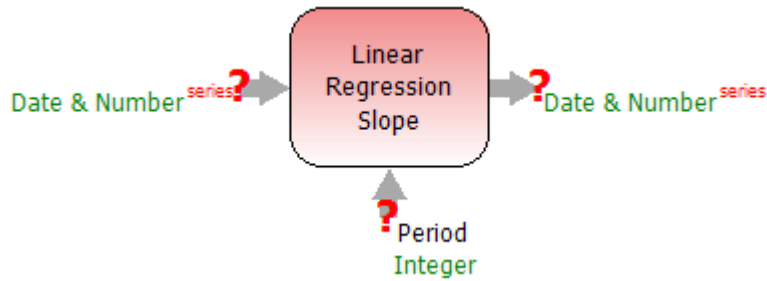
    AddToOutput(Me.CodeBlock.InputDate(i),a + (b*Period))

'Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i),((sumCloses - (b*sumPeriods))/Period) +
(((Period*sumPeriodValue)-(sumPeriods * SumCloses))/((Period*sumSqrPeriods) -
sumPeriodsSqr)*Period))

'Lob off unneeded values from tallies
sumcloses -= InputValue(i - (Period-1))
Next
End Sub
End Class

```

Linear Regression Slope



Description

Returns the Linear Regression Slope indicator for the period provided.

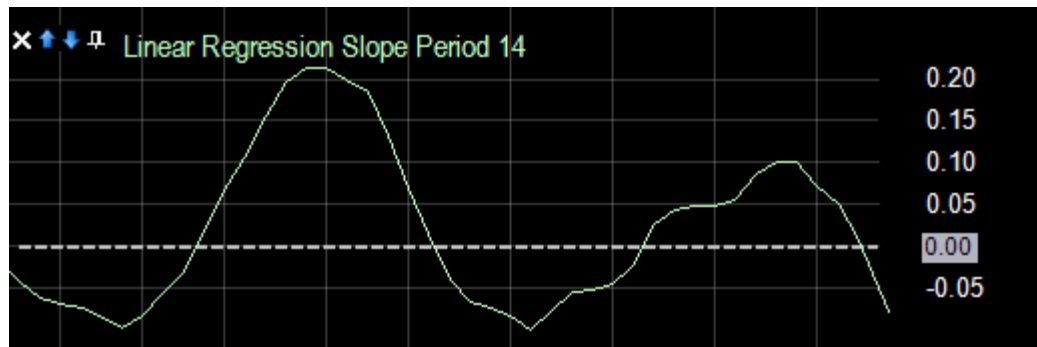
See also the [Linear Regression Slope](#) indicator.

Uses:

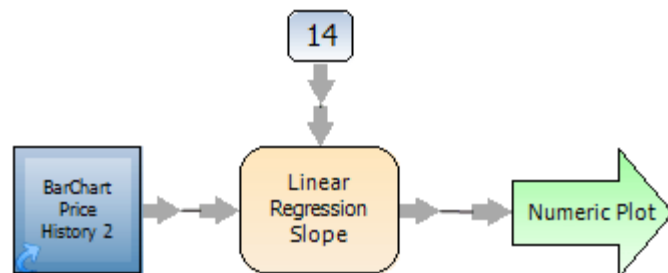
The Linear Regression Slope block is used to display the Linear Regression Slope indicator, either as a single value or as a line plot of earnings over time. Uses include a plot in a chart, values in columns, data displays and legends, as well as a condition in a strategy.

Example:

The following example is the Linear Regression Slope study from Personal Chartist. In this example the Linear Regression Slope is calculated off of a Price History plot.



The Linear Regression Slope Period 14 plot above uses the Linear Regression Slope block to plot the indicator.



Block diagram for the Linear Regression Slope Period 14 plot in the chart above.

Source Code

```
<WBIGuid("20209b2e-8f16-4d4b-a576-525c742d4c73"),FriendlyName("Linear Regression Slope"), _  
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Linear Regression Slope indicator for the  
period provided.". "10/18/2006")>
```

Public Class LinearRegressionSlope
inherits BaseTemplateDLStoDLSPeriod
'Version 1.05
Public Overrides Sub calculate()

' This file is part of the Blocks Code Library.

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' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.

' For the source code and more information on this block go to
' kb.Blocks.com And search for "Linear Regression Slope."

' Changes

' 1.04 - Added If inputcount < 2 Then Exit Sub
' 1.05 - changed all integer variables to longs to enable periods
' greater than 303

If inputcount < 2 Then Exit Sub

Dim sumCloses As Single
Dim sumSqrPeriods As Long
Dim sumPeriodsSqr As Long
Dim sumPeriods As Long
Dim periodNumber As Long
Dim sumPeriodValue As Single
'Dim slope As Single

Dim Period as Single = me.CodeBlock.ParameterValue
If Period < 2 Then Period = 2
If Period > inputcount - 2 Then Period = inputcount - 2

'count up the values for first period calc
For i As Integer = 0 To Period - 2
sumcloses += InputValue(i)
Next

'count up sum of periods and sum of squared periods
For i As Integer = 1 To Period
sumperiods += i
sumSqrPeriods += i^2
Next

sumPeriodsSqr = sumPeriods^2

For i As Integer = Period - 1 To Me.CodeBlock.InputCount - 1
'add values for this period to running tallies
sumcloses += InputValue(i)

```

periodNumber = 0
sumPeriodValue = 0
'Loop through values in the period
For y As Integer = (i - (Period - 1)) To i

    periodNumber += 1

    sumPeriodValue += periodNumber * InputValue(y)

Next

'calc slope for current point
' slope = ((Period*sumPeriodValue) - (sumPeriods * sumCloses))/((Period*sumSqrPeriods)-
sumPeriodsSqr)

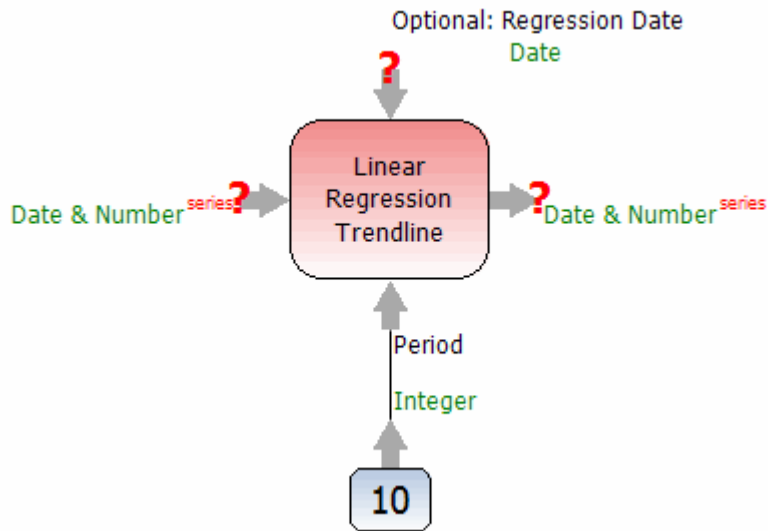
    AddToOutput(InputDate(i), ((Period*sumPeriodValue) - (sumPeriods *
sumCloses))/((Period*sumSqrPeriods)-sumPeriodsSqr))

'LoB off unneeded values from tallies
sumCloses -= InputValue(i - (Period-1))
Next

End Sub
End Class

```

Linear Regression Trendline



Description

The Linear Regression Trendline block plots a Linear Regression Trendline. The Optional: Regression Date connector allows you to set a specific date as the end date for the trendline.

See also the [Linear Regression Trendline](#) indicator.

Uses:

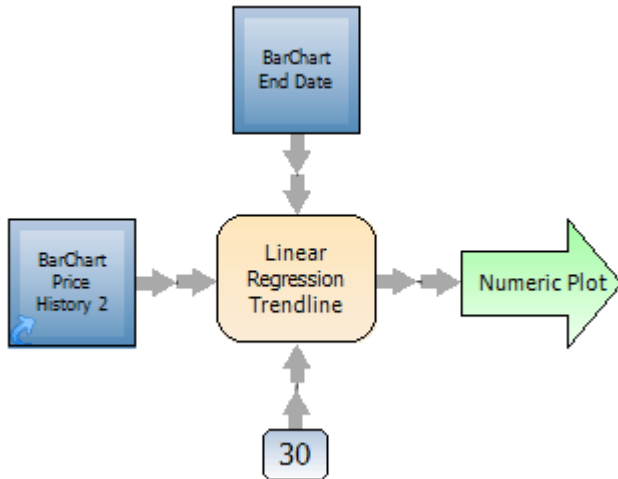
The Linear Regression Trendline block is used to display a Linear Regression Trendline, either as a single value or as a line plot. Uses include a plot in a chart, values in columns, data displays and legends, as well as a condition in a strategy.

Example:

The following example is the Linear Regression Trendline study from Personal Chartist. The Optional: Regression Date connector has been connected to the visible enddate of the chart. In this way, even if you scroll around on the chart, the trendline will always end on the last visible date on the chart.

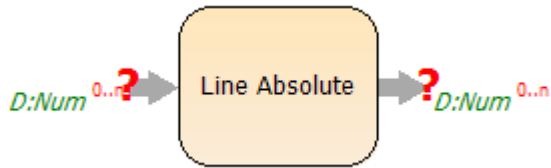


The Lin Reg Trendline 30 plot on the chart above uses the Linear Regression Trendline block to plot the trendline.



Block diagram for the Lin Reg Trendline 30 plot in the chart above. Notice the the BarChart's End Date is connected to the Optional: Regression Date connector. The ensures that the trendline always starts at the last visible date on the chart.

Line Absolute



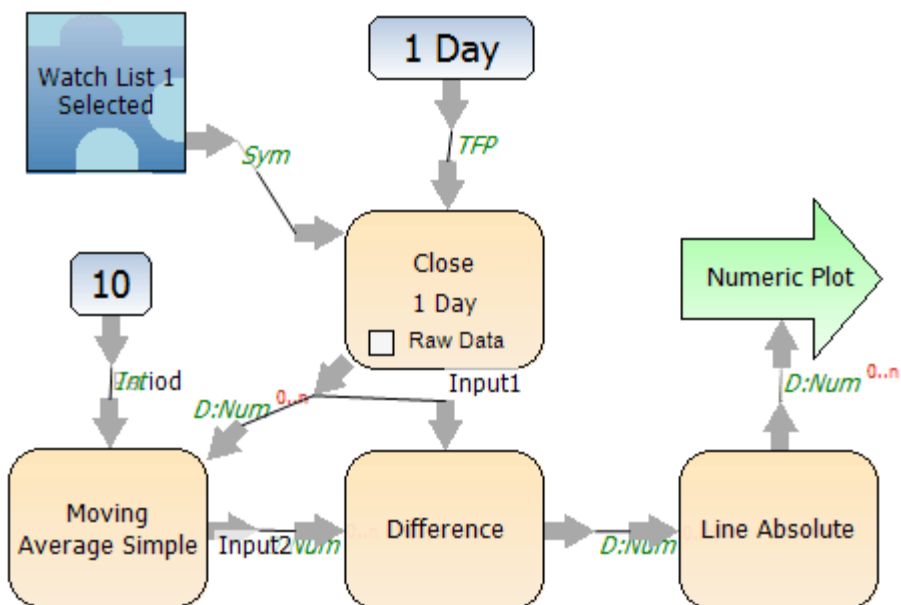
Description

Returns the absolute value of the Numbers provided.

Definition

Absolute value is a number's distance from zero on the number line. The absolute value of -4 is 4; the absolute value of 4 is 4.

Example

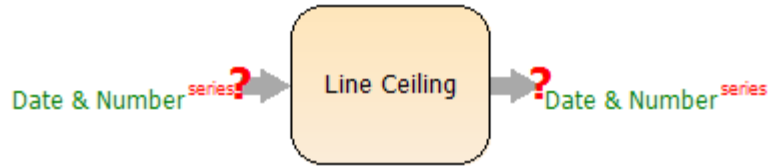


The example above plots the absolute value of the difference between the daily Close price and the 10-day Moving Average of the daily Close price.

Line Ceiling

Description

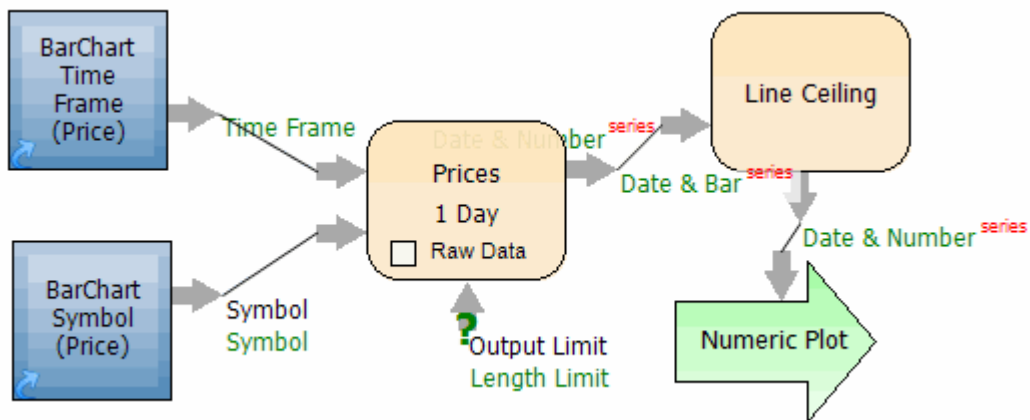
Returns the ceiling for each point on a line.



Definition

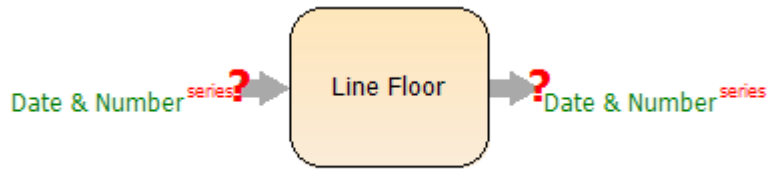
Ceiling is a statistical function that returns the smallest integer greater than or equal to a number. In other words, it rounds up to the nearest integer. The ceiling of 5.1 is 6; the ceiling of 3 is 3.

Example



The example above plots the Line Ceiling of the daily price history.

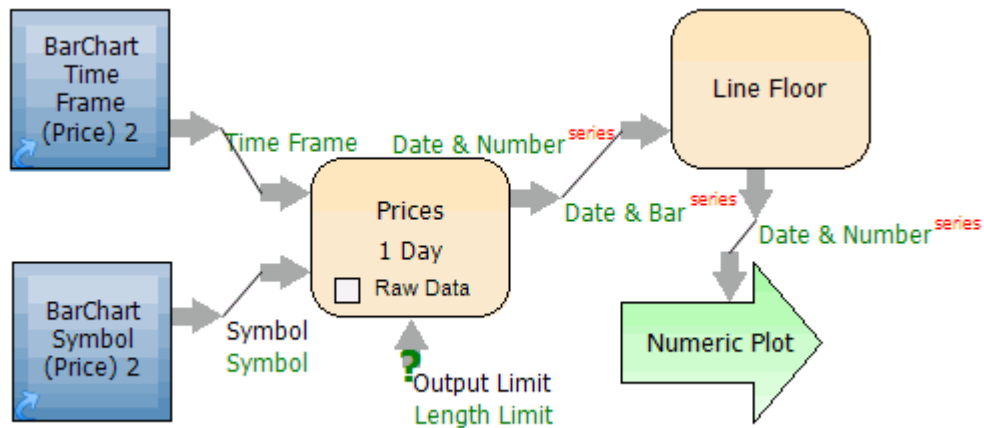
Returns the floor for each point on a line.



Definition

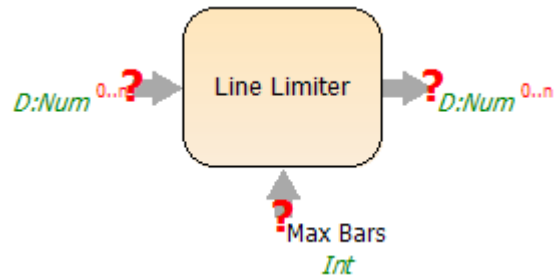
Floor is a statistical function that returns the largest integer less than or equal to a number. In other words, it rounds down to the nearest integer. The floor of 5.9 is 5; the floor of 3 is 3.

Example



The example above plots the Line Floor of the daily price history.

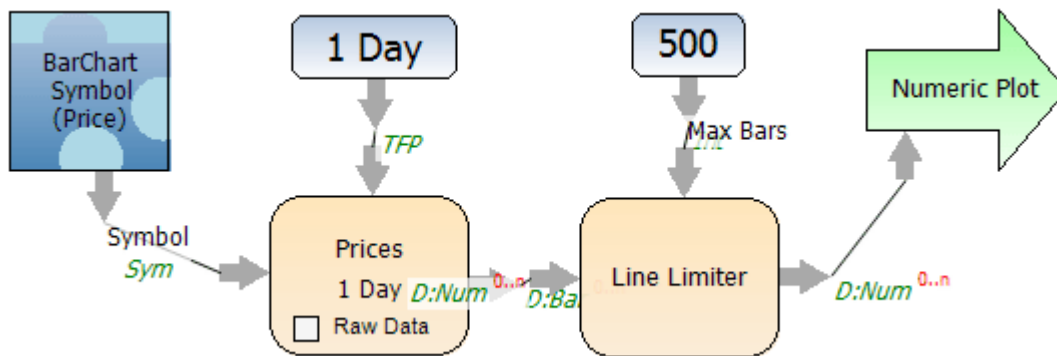
Line Limiter



Description

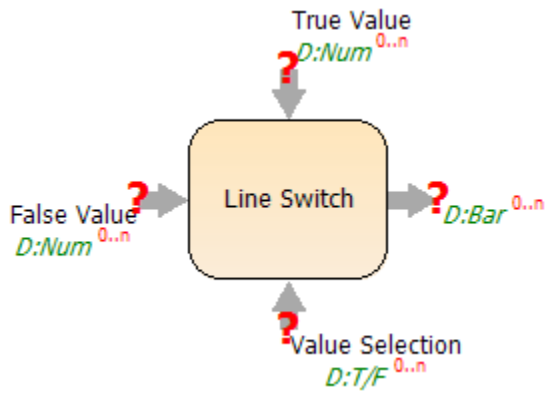
Limits the number of Dates & Numbers it provides to an amount equal to the Max Bars provided. The limiter always returns the most current dates.

Example



The example above plots the 500 most recent daily Prices for the BarChart Symbol.

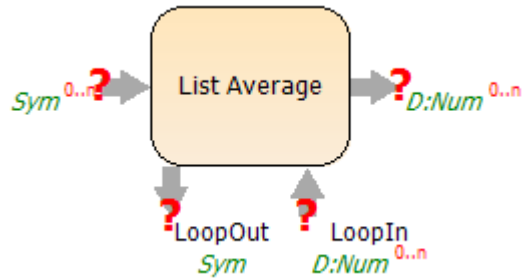
Line Switch



Description

Returns the value from Input1 if the given Boolean is True, or Input2 if the given Boolean is false for each point in time.

List Average



Description

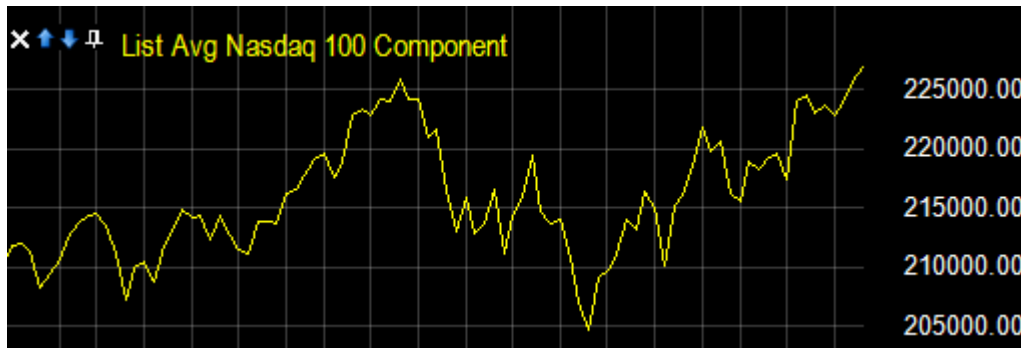
Returns an index average using the date number series provided from the LoopIn/LoopOut circuit.

Uses:

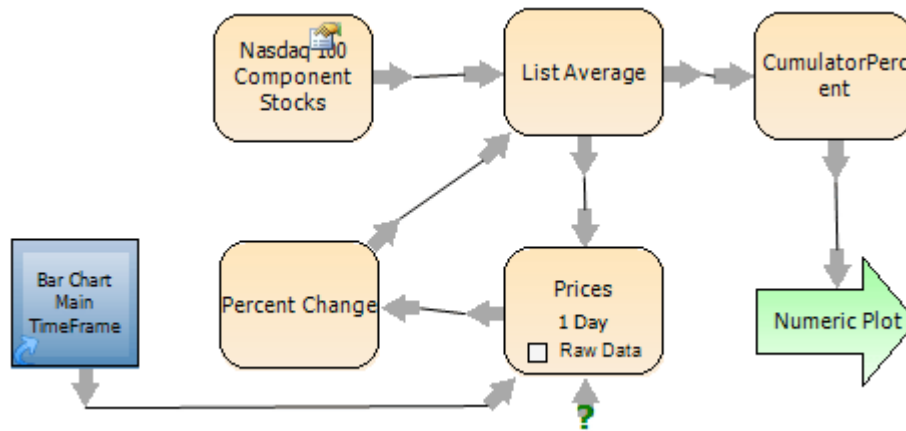
The List Average block is used anytime you want to find the average of a certain aspect of a WatchList of symbols. The specific aspect to average is connected to the LoopOut/LoopIn circuit of the block. Uses include studies and strategies as well as single values in a label, data display or column.

Example 1:

The following example is the WatchList Average study from Personal Chartist. In this case the List Average block is used to find the average percent change of Price for the Nasdaq 100 Component WatchList. Each percent change value is then accumulated.



The List Avg Nasdaq 100 Component plot above uses the List Average block to find the average percent change of Price for all the symbols in the Nasdaq 100 Component WatchList.



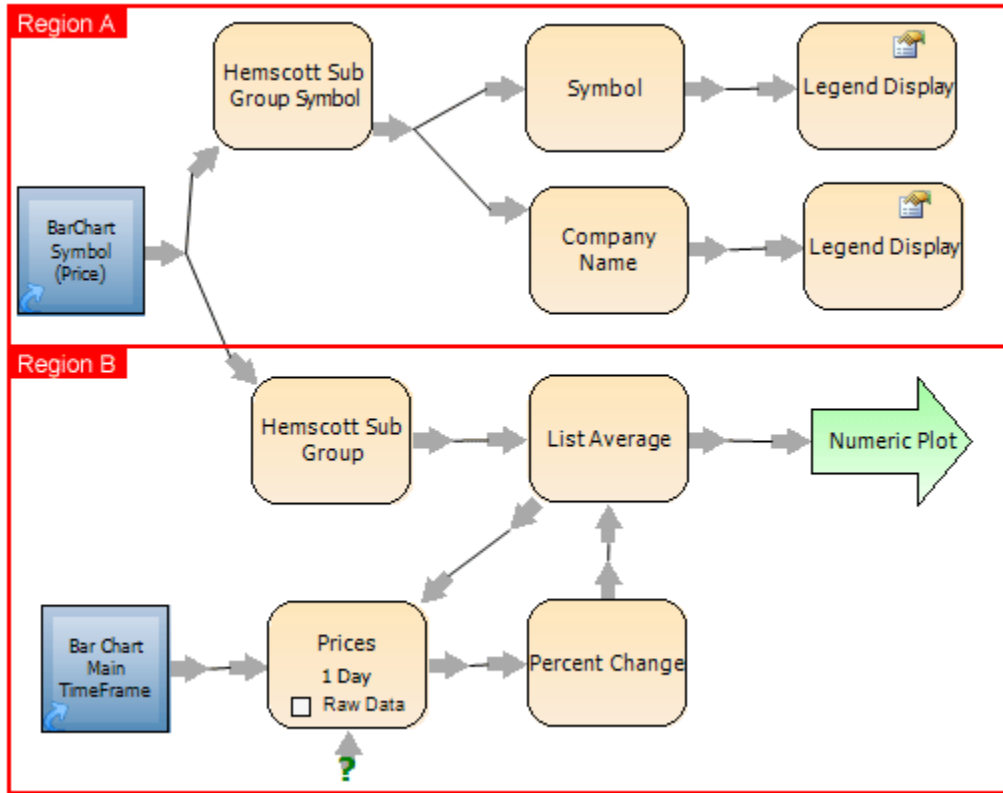
Block diagram for the List Avg Nasdaq 100 Component plot in the chart above.

Example 2:

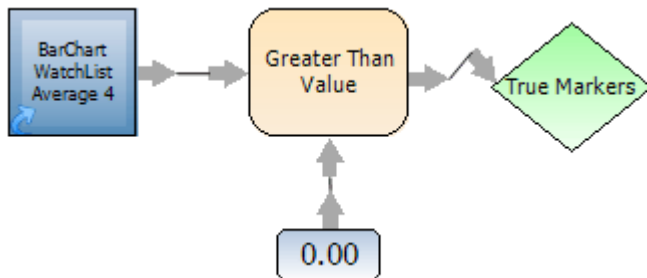
The following example plots True markers on a Price History chart. A True marker, in the form of a teal dot, appears on the chart in the top pane when the percent change of price for the symbol's corresponding industry group is above zero. The List Average block is used to plot the List Avg plot in the lower pane. The True marker plot in the top pane then takes the values of the List Avg plot in the bottom pane and compares them to zero and plots True markers where appropriate.



The True markers (teal dots) in the top pane show where the List Avg plot in the bottom pane is above zero.

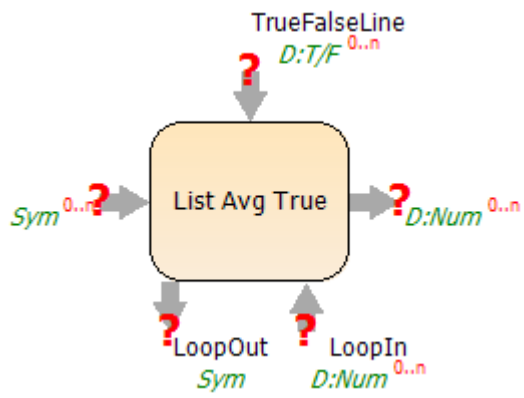


Block diagram for the List Avg plot in the bottom pane of the chart above. Region A of the block diagram creates the symbol and industry name text for the legend. Region B is the logic behind the line. The List Average block is used to plot the percent change of price for each point on the line for the Morningstar Sub Group of the charts symbol.



Block diagram for the %Chng > 0.00 True marker plot in the top pane of the chart above. It compares the values of the List Avg plot in the bottom pane of the chart above (represented by the BarChart WatchList Average 4 block) and draws a true marker when it is greater than zero.

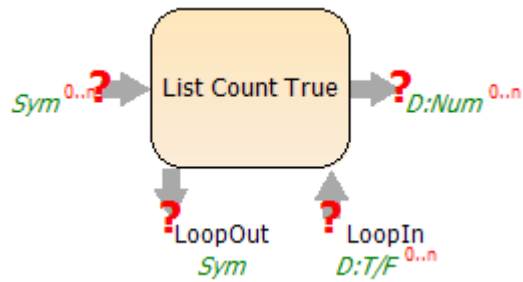
List Avg True



Description

Returns an Index Average using the date boolean series provided from the LoopIn/LoopOut circuit.

List Count True



Description

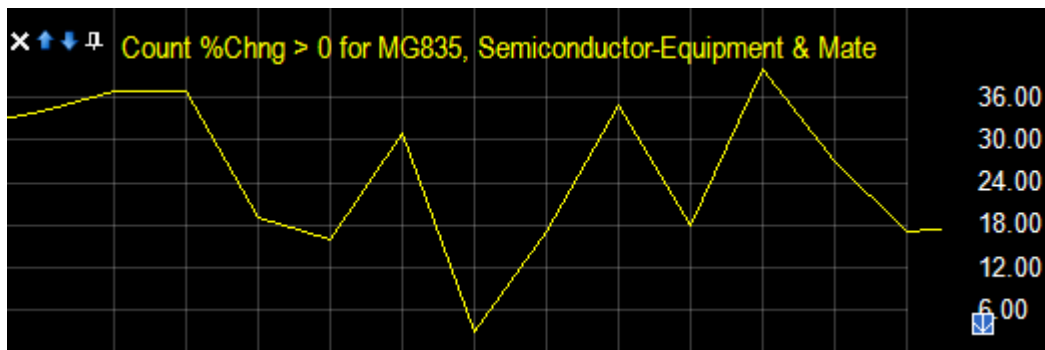
Returns the number of Symbols that meet the condition in the LoopIn/LoopOut circuit.

Uses:

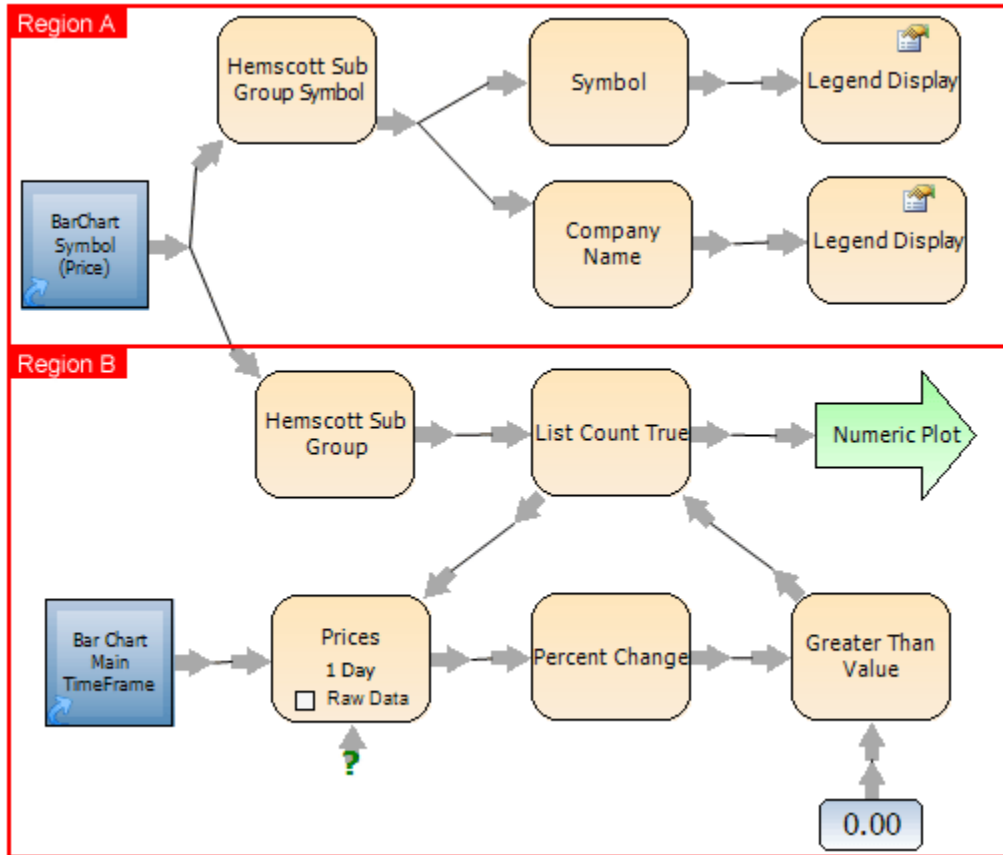
The List Count True block is used anytime you want to find the number of symbols in a WatchList that meet a certain condition. The specific condition to count is connected to the LoopOut/LoopIn circuit of the block. Uses include studies and strategies as well as single values in a label, data display or column.

Example:

The following example displays how many of the symbols in the MG835, Semiconductor-Equipment & Mate WatchList have a percent change of price greater than zero.

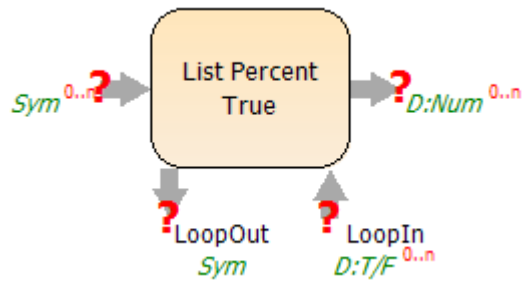


The Count %Chng > 0 plot above uses the List Count True block to count how many stocks in the MG835, Semiconductor-Equipment & Mate Watchlist had a percent change of price greater than zero.



Block diagram for the Count %Chng > 0 plot in the chart above. Region A of the block diagram draws the WatchList's symbol and name in the legend, in this case MG835, Semiconductor-Equipment & Mate. Region B is the logic behind the line plot itself. It uses the List Count True block to find how many stocks in the WatchList had a percent change of price greater than zero.

List Percent True



Description

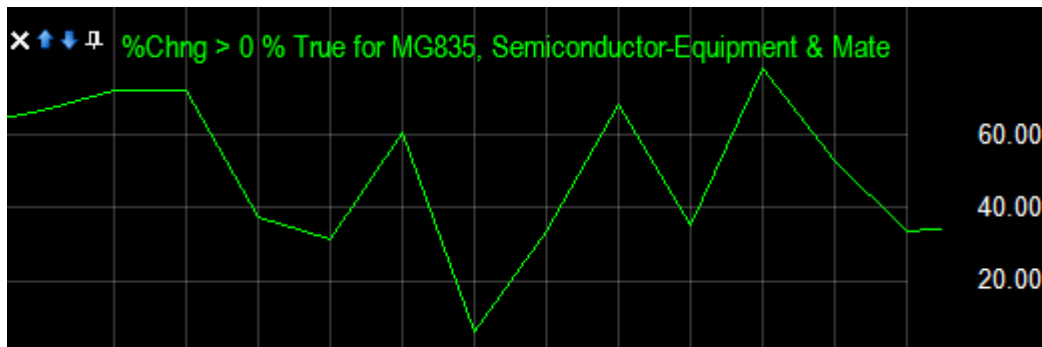
Returns the percentage of Symbols that meet the condition in the LoopIn/LoopOut circuit.

Uses:

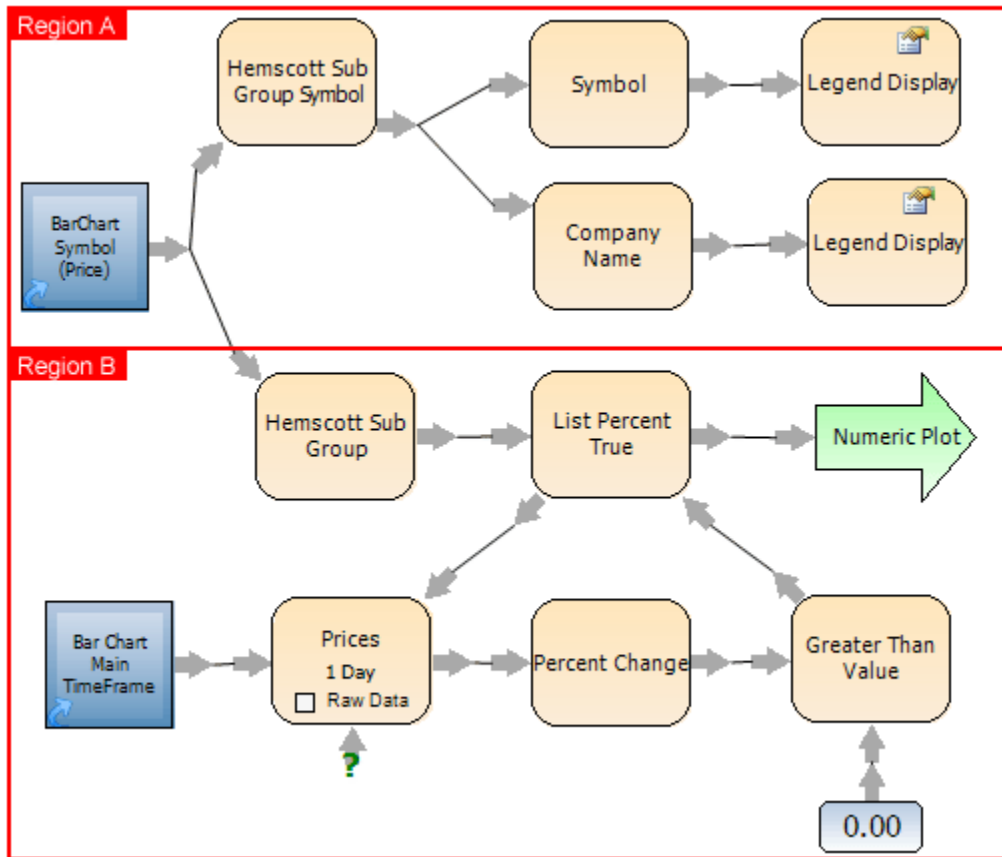
The List Percent True block is used anytime you want to find the percentage of a WatchList's symbols that meet a certain condition. The specific condition to test is connected to the LoopOut/LoopIn circuit of the block. Uses include studies and strategies as well as single values in a label, data display or column.

Example:

The following example displays the percentage of stocks in the MG835, Semiconductor-Equipment & Mate WatchList that have a percent change of price greater than zero.

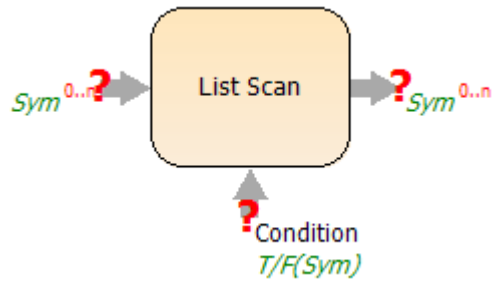


The %Chng > 0 % True plot above uses the List Percent True block to display the percentage of stocks in the MG835, Semiconductor-Equipment & Mate Watchlist that have a percent change of price greater than zero.



Block diagram for the %Chng > 0 %True plot in the chart above. Region A of the block diagram creates the symbol and industry name text for the legend. Region B is the logic behind the line. The List Percent True block is used to calculate the percentage of symbols in the WatchList that have a percent change of price greater than zero.

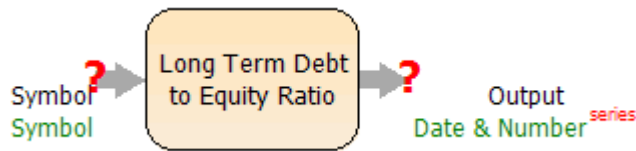
List Scan



Description

Returns the items in the list provided that meet the scan conditions.

Long Term Debt to Equity Ratio



Description

Returns the long term debt to equity ratio for the Symbol provided.

Definition

The fiscal year Long-term debt divided by the Total Common Equity.

Uses:

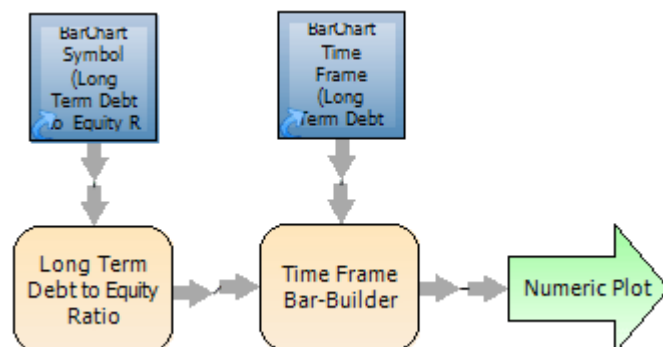
The Long Term Debt to Equity Ratio block is used to calculate the Long Term Debt to Equity Ratio indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Long Term Debt to Equity Ratio Personal Chartist Study.

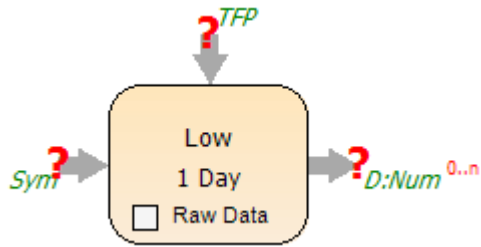


The Long Term Debt to Equity Ratio plot uses the Long Term Debt to Equity Ratio block to plot the indicator.



Block diagram for the Long Term Debt to Equity Ratio plot in the chart above.

Low



Description

Returns Low prices for the symbol provided for the timeframe provided. When the Raw Data checkbox is checked, the timeframe connector's incoming value is not applied to the output BUT it does effect what type of data is provided to the block itself. For instance, if you have a 1 Day block connected to the Time Frame input and the Raw Data checkbox is checked, Blocks will ensure that the data coming into the block will be able to be converted to that timeframe. This is useful if you know you need a certain type of data (i.e. daily data) for calculations farther on down in your block diagram but you don't necessarily want to display your data in that time frame right now.

Uses:

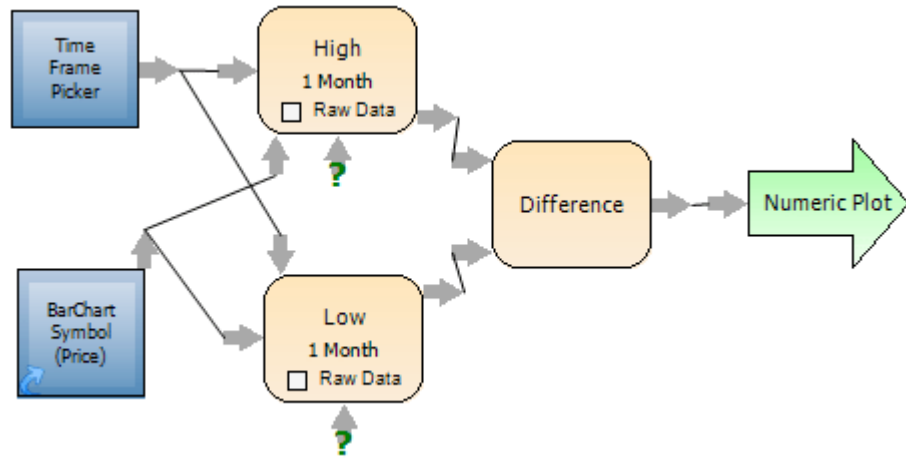
The Low block is used anytime you want to get access to the Low prices for a Symbol. Uses include studies, strategies and values in columns.

Example

The following example plots the difference between the High and Low for each bar in the Price History plot.



The High minus Low plot above uses the Low block along with the High block to plot the difference between the High and the Low for each bar in the Price History plot in the top pane.



Block diagram for the High minus Low plot in the chart above.

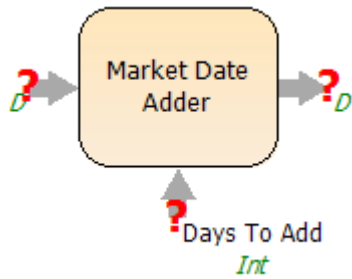
Low of Day



Description

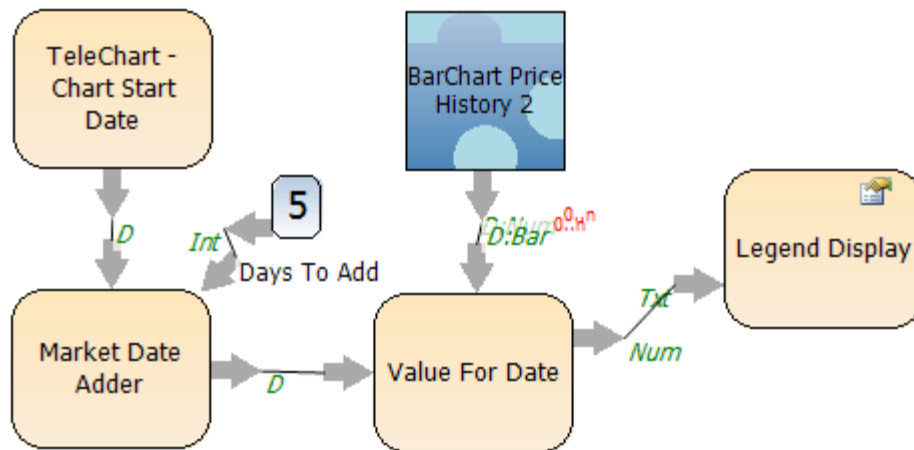
Returns the lowest value by date in a date/number series. If you pass in Daily data, it will return the Low for each market day. If you pass in minute data, it will return the lowest low for each date.

Market Date Adder



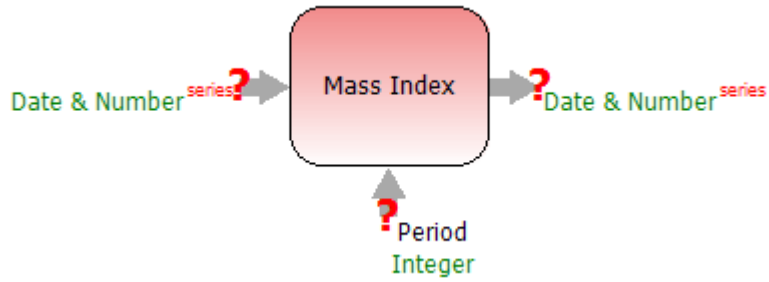
Description

Adds a number of market days to the Date provided.



The example above displays in a legend the date that is 5 market days after the start date of the current TeleChart chart.

Mass Index



Description

Returns the Mass Index indicator for the period provided.

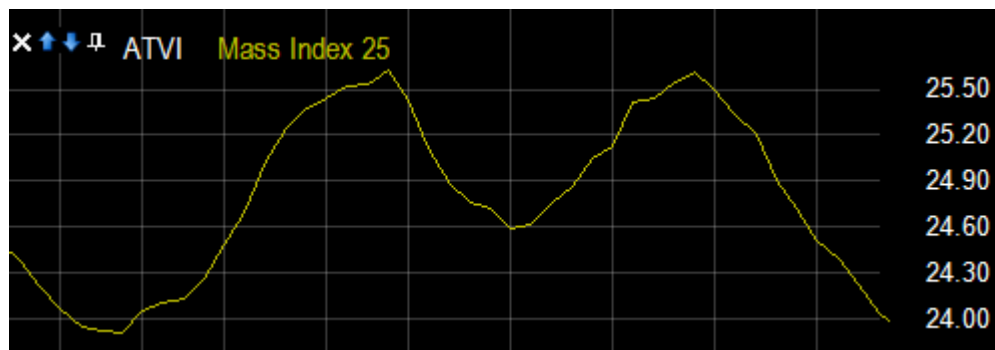
See also the [Mass Index](#) indicator.

Uses:

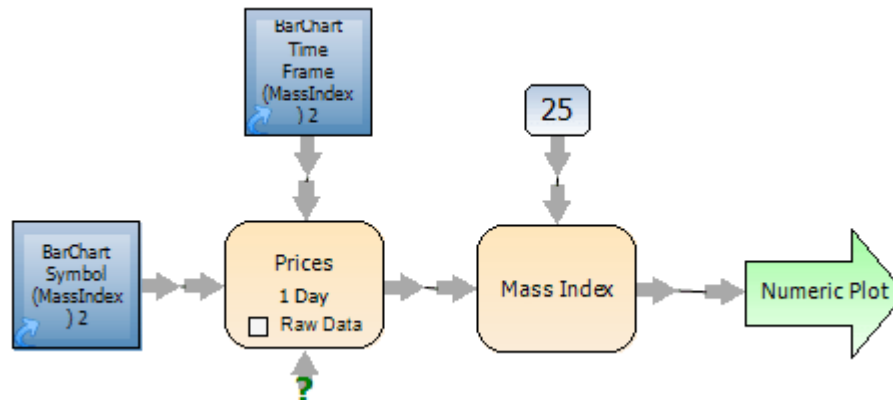
The Mass Index block is used to calculate the Mass Index indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Mass Index Personal Chartist Study.



The Mass Index 25 plot uses the Mass Index block to plot the indicator.



Block diagram for the Mass Index 25 plot in the chart above.

Source Code

```
<WBIGuid("581fa55c-d6aa-48c3-abbb-92caf1d1729e"),FriendlyName("Mass Index"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Mass Index indicator for the period
provided.", "10/18/2006")> _
Public Class MassIndex
Inherits BaseDLBtoDLSPeriod
'Version 1.02
Dim EMAValues As Single()
Dim EMA2Values As Single()
Dim massValues As Single()

Dim currVal As Double
Dim sum As Double = 0
Dim sumOfMasses As Double = 0

Dim Period As Integer
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
'
' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.
' You are licensed to use this source code for your own private use.
' It may not be re-distributed or sold without express permission
' from Worden Brothers, Inc..
'
'
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.Blocks.com And search for "Mass Index."
'
' Changes
' 1.02 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

ReDim EMAValues(Me.CodeBlock.InputCount - 1)
ReDim EMA2Values(Me.CodeBlock.InputCount - 1)
ReDim massValues(Me.CodeBlock.InputCount - 1)

Period = me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
If Period > inputcount -2 Then Period = inputcount -2

'calc 9 day EMA for all values
For i As Integer = 0 To 8
sum += Me.CodeBlock.InputHigh(i) - Me.CodeBlock.InputLow(i)
Next
EMAValues(8) = sum / 9
currVal = EMAValues(8)

For i As Integer = 9 To Me.CodeBlock.inputcount - 1
```

```
currVal = currVal + ((Me.CodeBlock.InputHigh(i) - Me.CodeBlock.InputLow(i)) - currVal) * 2 / 10
```

```
EMAValues(i) = currVal
```

```
Next
```

```
'-----
```

```
'calc 9 day EMA for all values of EMAValues
```

```
For i As Integer = 8 To 16
```

```
sum += EMAValues(i)
```

```
Next
```

```
EMA2Values(16) = sum / 9
```

```
currVal = EMA2Values(15)
```

```
For i As Integer = 17 To Me.CodeBlock.InputCount - 1
```

```
currVal = currVal + (EMAValues(i) - currVal) * 2 / 10
```

```
EMA2Values(i) = currVal
```

```
Next
```

```
'-----
```

```
'calc all mass values
```

```
For i As Integer = 17 To Me.CodeBlock.InputCount-1
```

```
If EMA2Values(i) <> 0 Then
```

```
massValues(i) = EMAValues(i)/EMA2Values(i)
```

```
Else
```

```
massValues(i) = EMAValues(i)
```

```
End If
```

```
Next
```

```
'sum values for period and return values
```

```
For i As Integer = 17 + Period - 1 To Me.CodeBlock.InputCount - 1
```

```
For y As Integer = (i - (Me.CodeBlock.ParameterValue - 1)) To i
```

```
sumOfMasses += massValues(y)
```

```
Next
```

```
me.CodeBlock.AddToOutput(me.CodeBlock.InputDate(i), sumofmasses)
```

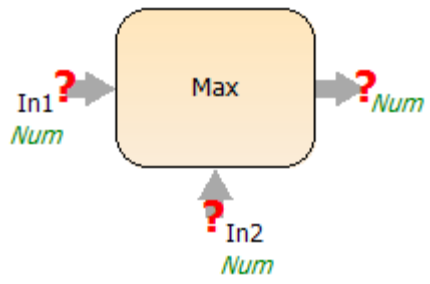
```
sumOfMasses = 0
```

```
Next
```

```
End Sub
```

```
End Class
```

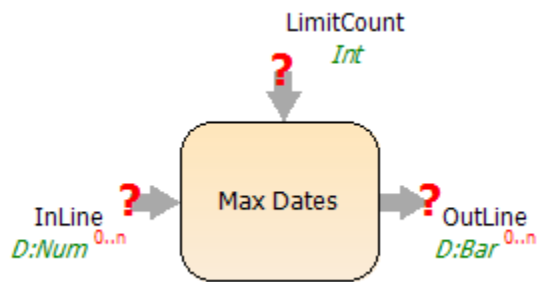
Max (Number)



Description

Returns the largest value of either In1 or In2.

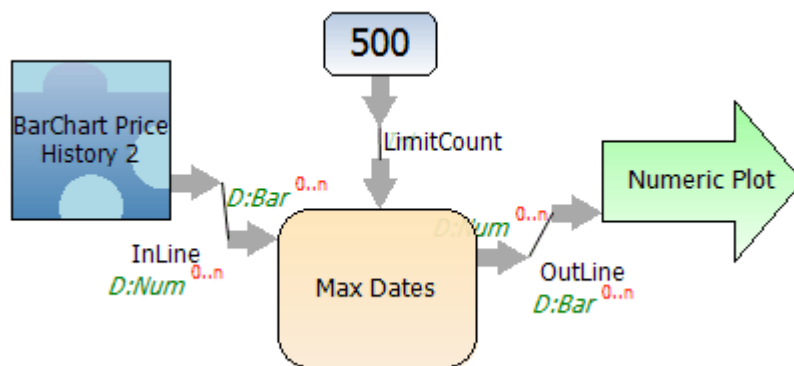
Max Dates



Description

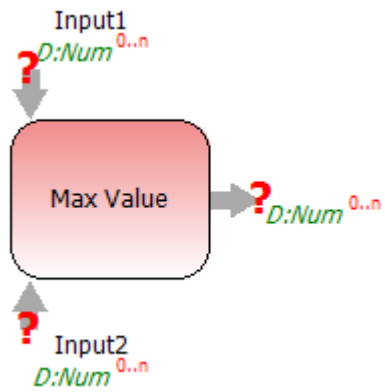
Limits the number of dates by the specified value.

Example



The example above plots the most recent 500 dates and bars from BarChart Price History 2.

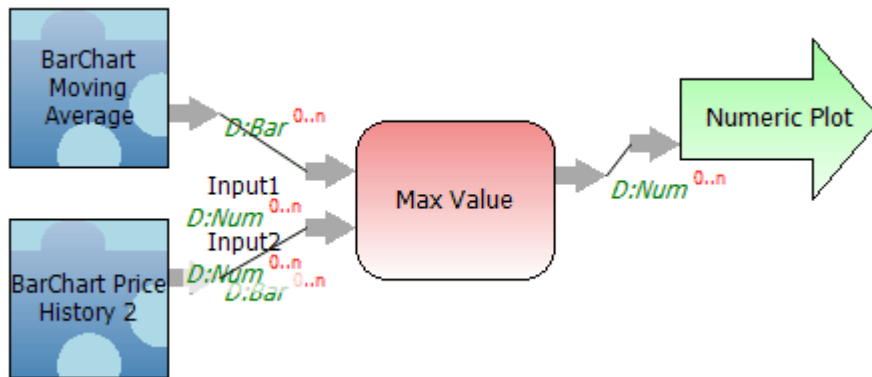
Max Value



Description

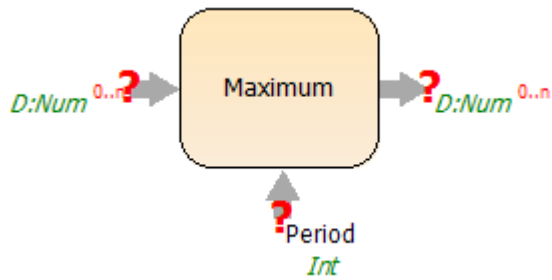
Returns the highest value of the either Input1 or Input2.

Example



The example above plots the smaller of either the BarChart Moving Average or the BarChart Price History 2 for each point in time.

Maximum



Description

Returns the maximum (or highest) value for the period provided.

Uses:

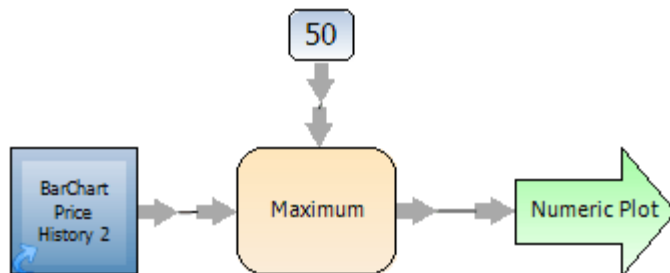
The Maximum block is used to plot the maximum value for the given period for use in studies, strategies and tools including data displays and columns.

Example:

The following example plots the minimum and maximum Close Price values base on a period of 50 days.

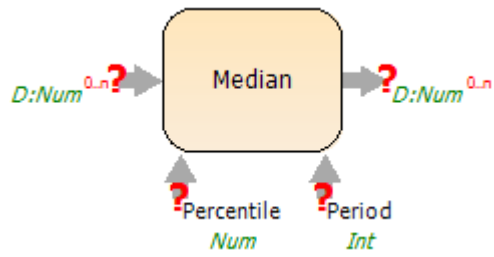


The Max 50 plot above uses the Maximum block to plot the indicator.



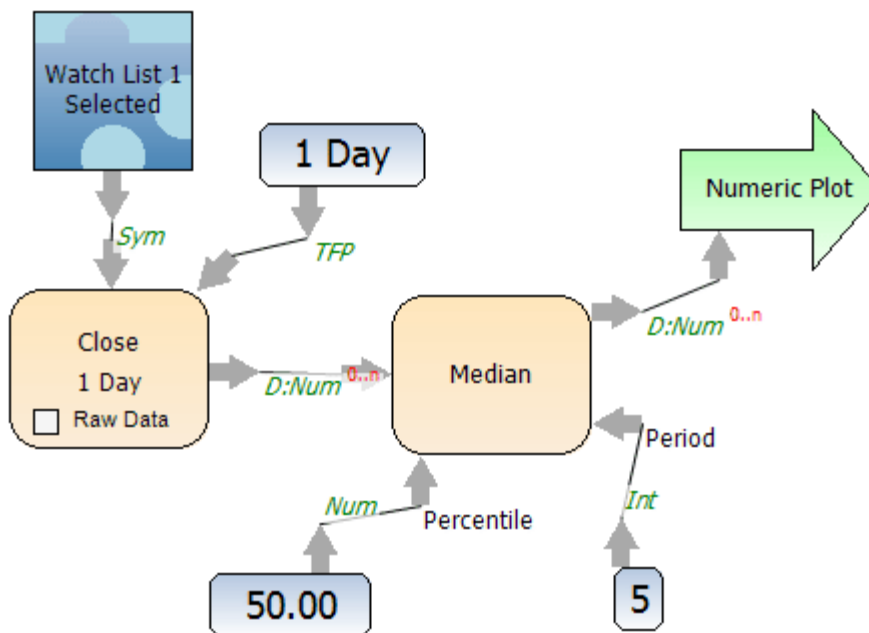
Block diagram for the Max 50 plot in the chart above.

Median



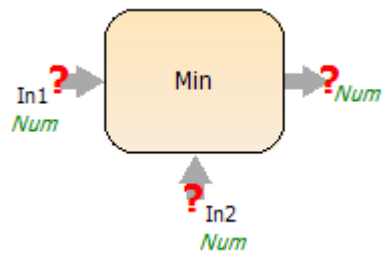
Description

Returns the value at the percentile provided for the period provided.



The example above plots the value at the 50th percentile from the values within the period for the daily Close prices for the selected Watch List Symbol.

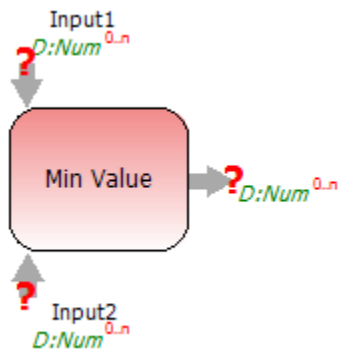
Min (Number)



Description

Returns the smallest value of either In1 or In2.

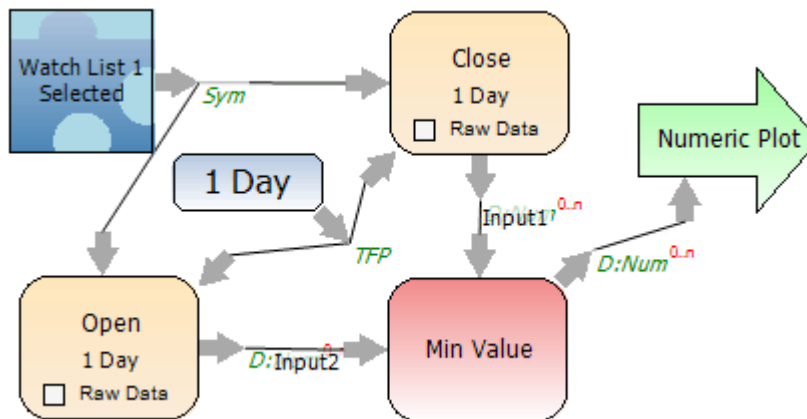
Min Value



Description

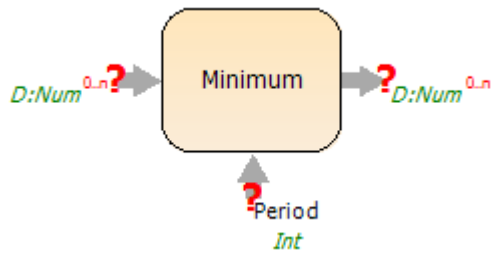
Returns the lowest value of the either Input1 or Input2.

Example



The example above plots the smaller of either the daily Open or the daily Close for the selected Watch List Symbol.

Minimum



Description

Returns the minimum (or lowest) value for the period provided.

Uses:

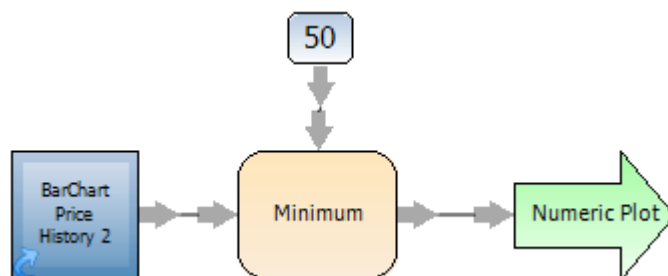
The Minimum block is used to plot the minimum value for the given period for use in studies, strategies and tools including data displays and columns.

Example

The following example plots the minimum and maximum Close Price values base on a period of 50 days.

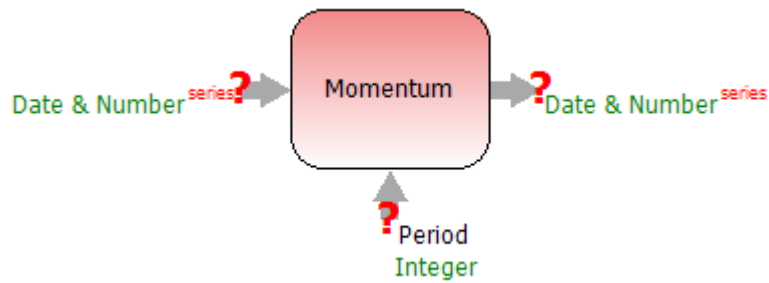


The Min 50 plot above uses the Minimum block to plot the indicator.



Block diagram for the Min 50 plot in the chart above.

Momentum



Description

Returns the Momentum indicator for the period provided.

See also the [Momentum](#) indicator.

Uses:

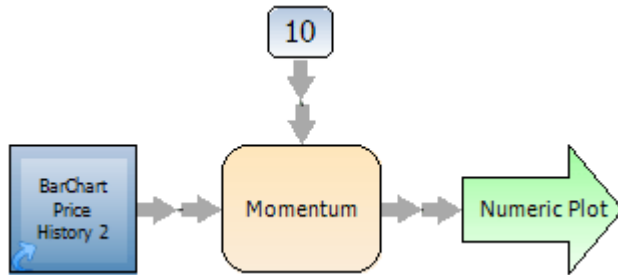
The Momentum block is used to calculate the Momentum indicator for use in studies, strategies and tools within blocks including data displays and columns.

Example:

The following example is the Momentum Personal Chartist Study.



The Momentum Period 10 plot uses the Momentum block to plot the indicator.



Block diagram for the Momentum Period 10 plot in the chart above.

Source Code

```

<WBIGuid("933c0eee-02eb-47f3-a8c2-02496a920354"),FriendlyName("Momentum"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Momentum indicator for the period provided.",
"10/17/2006")> _
Public Class Momentum
inherits BaseTemplateDLStoDLSPeriod
'Version 1.02
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
'
' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.
' You are licensed to use this source code for your own private use.
' It may not be re-distributed or sold without express permission
' from Worden Brothers, Inc..
'
'
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.Blocks.com And search for "Momentum."
'
' Changes
' 1.02 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim compValue As Single = 0
Dim Period as Integer = me.CodeBlock.ParameterValue

If Period < 1 Then Period = 1
if Period > me.CodeBlock.InputCount - 2 then Period = me.CodeBlock.ParameterValue - 2

For i As Integer = Period To Me.CodeBlock.InputCount - 1

compValue = Me.CodeBlock.InputValue(i - Period)
If compValue = 0 Then compValue = 1
If compValue <> 0 Then
Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), (Me.CodeBlock.InputValue(i)/compValue)*100)
Else
Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), Me.CodeBlock.InputValue(i)*100)
End If
  
```

Next

End Sub
End Class

Month of Year



Description

Returns month of year for the given date.

Monthly Option Expiration

Legend Prefix	
QuickEdit Field Na	Number
Show In Legend	True
Show in QuickEdit	True
Ok	

Option Expiration



Description

Returns the last day of options expiration month for the given date.

Block Properties

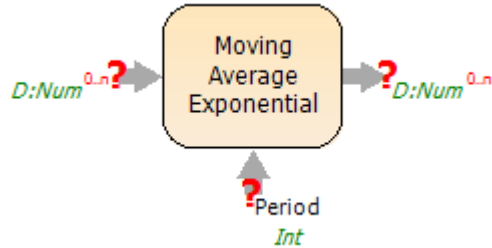
Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text will show up in the legend.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not this block will show up in the legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Moving Average Exponential



Description

Returns the Exponential Moving Average indicator for the period provided.

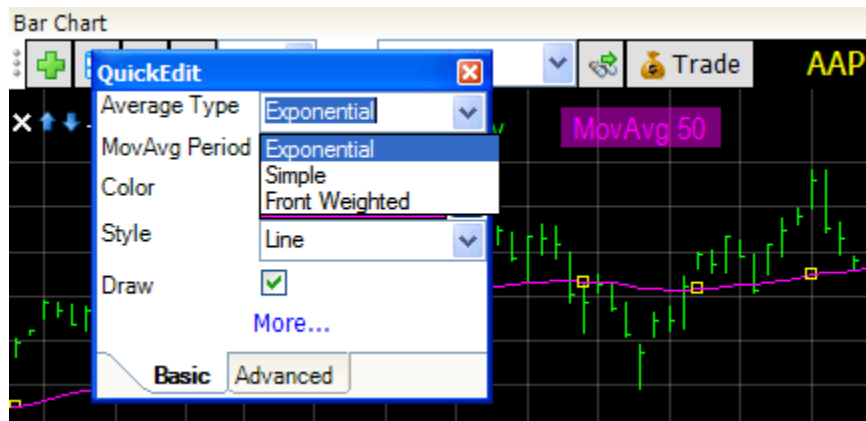
See also the [Exponential Moving Average](#) indicator.

Uses:

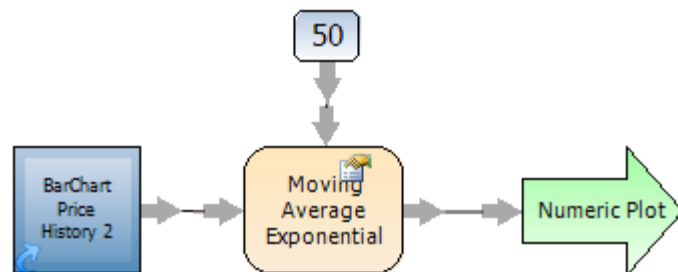
The Moving Average Exponential block is used to calculate the Exponential Moving Average indicator for use in studies, strategies and tools within blocks including data displays and columns.

Example:

The following example is the default MovAvg plot from Personal Chartist. Using the QuickEdit menu, the average type was changed to exponential instead of the default front weighted.

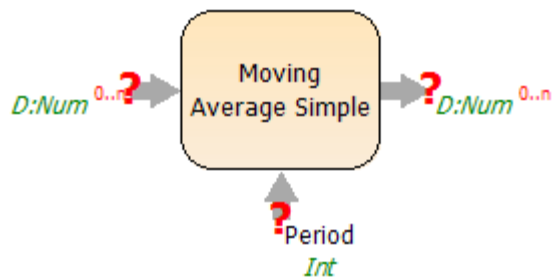


The MovAvg 50 plot is changed to Exponential. The plot uses the Moving Average Exponential block to plot the indicator.



Block diagram for the MovAvg 50 plot in the chart above.

Moving Average Simple



Description

Returns the Simple Moving Average for the period provided.

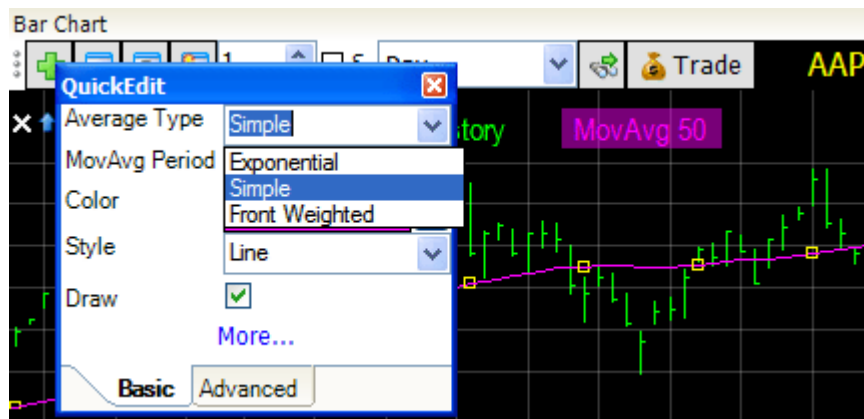
See also the [Simple Moving Average](#) indicator.

Uses:

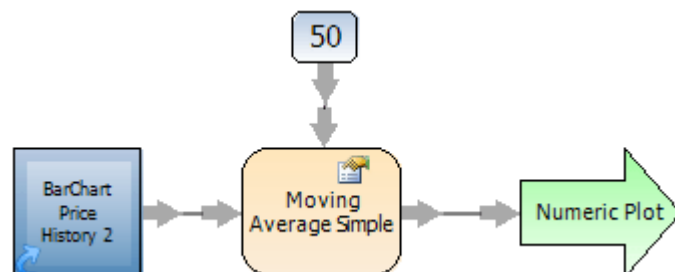
The Moving Average Simple block is used to calculate the Simple Moving Average indicator for use in studies, Strategies and other tools within blocks including data displays and columns.

Example:

The following example is the default MovAvg plot from Personal Chartist. Using the QuickEdit menu, the average type was changed to simple instead of the default front weighted.

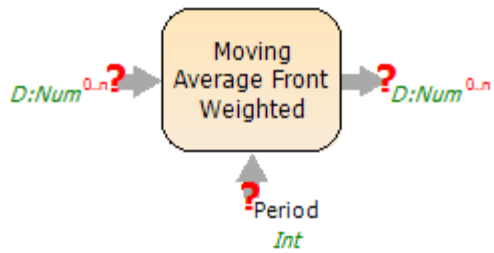


The MovAvg 50 plot is changed to Simple. The plot uses the Moving Average Simple block to plot the indicator.



Block diagram for the MovAvg 50 plot in the chart above.

Moving Average Front Weighted



Description

Returns a Front Weighted Moving Average for the period provided.

Uses:

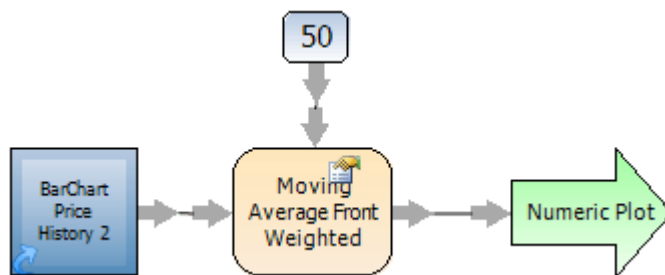
The Moving Average Front Weighted block is used to calculate the Front Weighted Moving Average indicator for use in studies, Strategies and other tools within blocks including data displays and columns.

Example:

The following example is the default MovAvg plot from Personal Chartist.

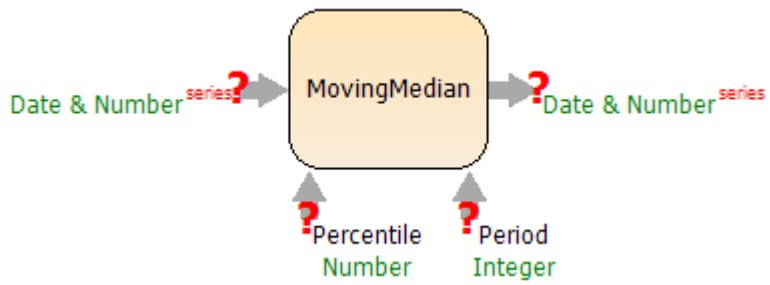


The MovAvg 50 plot above uses the Moving Average Front Weighted block to plot the indicator.



Block diagram of the MovAvg 50 plot in the chart above.

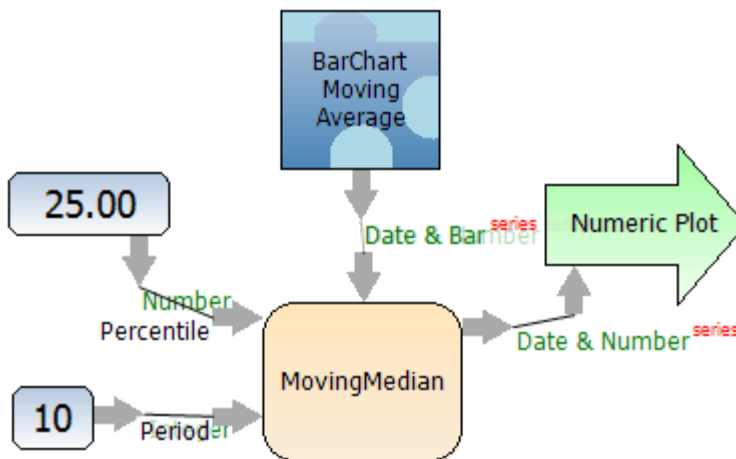
MovingMedian



Description

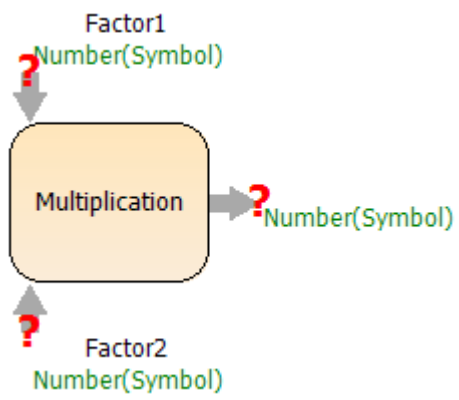
Returns the value at the percentile provided for the period provided.

Example



The example above plots the value at the 25th percentile from the values within the period for the BarChart Moving Average.

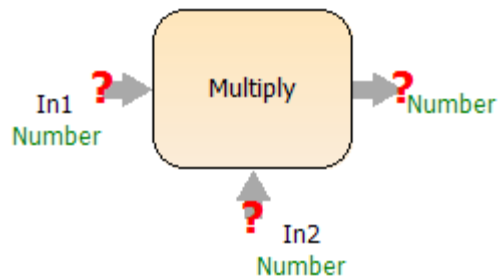
Multiplication



Description

Returns Factor1 multiplied by Factor2.

Multiply



Description

Takes in two numbers and multiplies them together.

Uses:

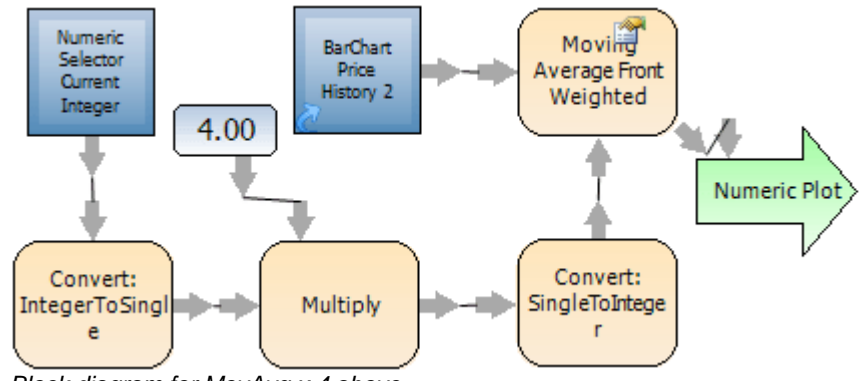
The Multiply block can be used anytime you want to multiply two values together. Uses include altering period values.

Example 1:

This example is a moving average whose period is a multiple of another moving average. In the chart below, the purple moving average, named MovAvg, derives its period from the numeric selector in the upper right that I added to the toolbar. The yellow moving average, named MovAvg x 4, also derives its period from the numeric selector, but it multiplies that value by 4 as well.

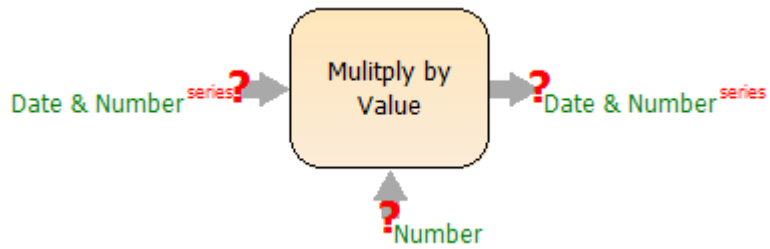


MovAvg derives its period from the numeric selector in the upper right. MovAvg x 4.00 does as well, but it then multiplies the value of the numeric selector by 4.



Block diagram for MovAvg x 4 above.

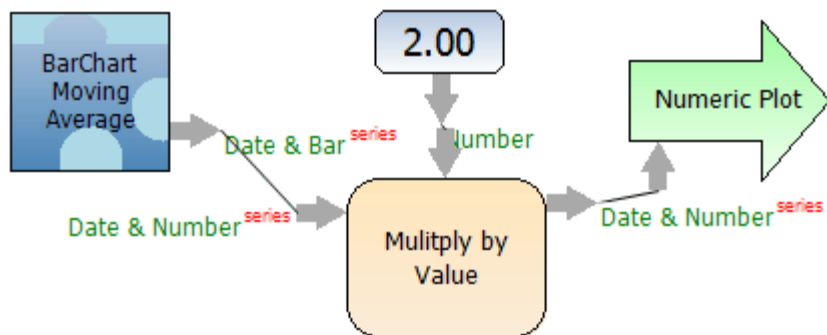
Multiply By Value (Date & Number)



Description

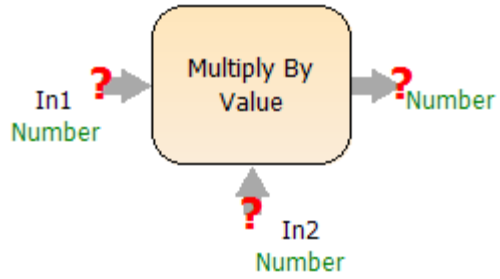
Returns the values in the Date & Number Series provided multiplied by the Number provided.

Example



The example above plots the BarChart Moving Average multiplied by 2.

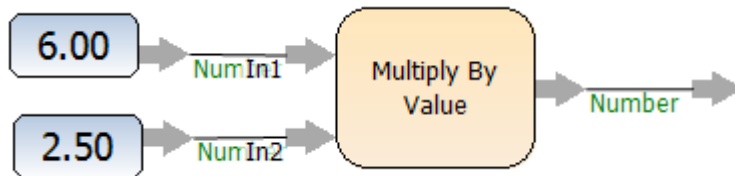
Multiply By Value (Number)



Description

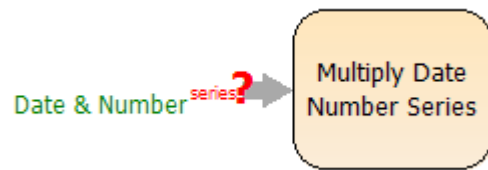
Multiplies In1 by In2.

Example



The example above returns the product of multiplying 6.00 by 2.50.

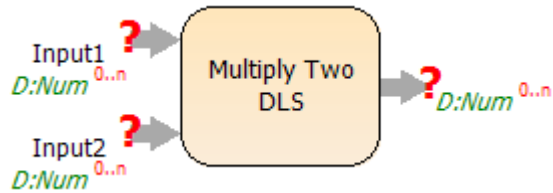
Multiply Date Number Series



Description

Multiply the number in a date number series.

Multiply Two DLS



Description

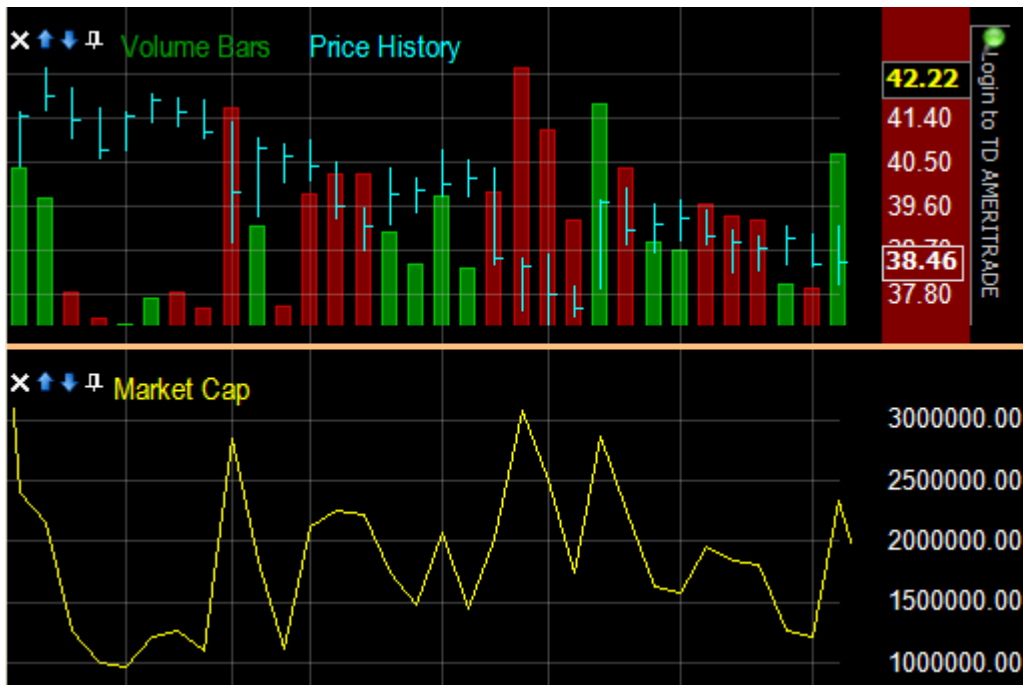
Multiplies the values of Input1 by Input2.

Uses:

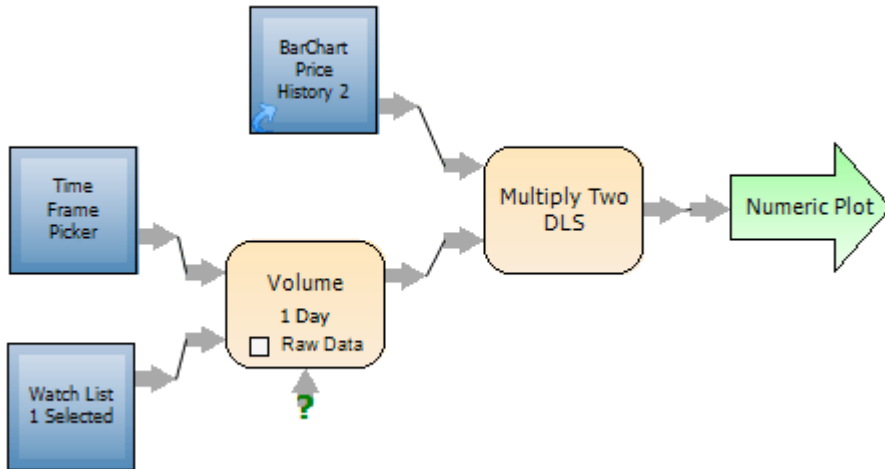
The Multiply Two DLS block is used when you need to add the values together of two Date & Number series. If a Date & Bar Series is connected, the block defaults to using the close price for its computation. Uses for this block include creating studies and strategies.

Example

The following example multiplies the stock's close prices by the total volume to determine the stock's Market Capitalization. You will notice that I did not grab the volume from the volume plot in the top pane. This is because that plot is set by default to show volume bars in 100's of shares so using that line for the Market Capitalization line would have made it off by a factor of 100.

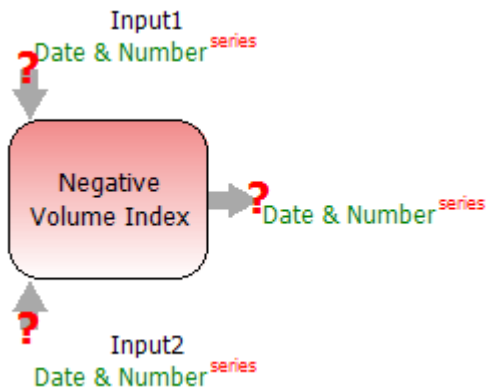


The Market Cap line in the bottom pane multiplies the stock's price by its total shares.



Block diagram for the Market Cap line above. Notice that the volume information was not taken from the plot in the top pane. This is because that plot by default displays volume in 100's of stocks.

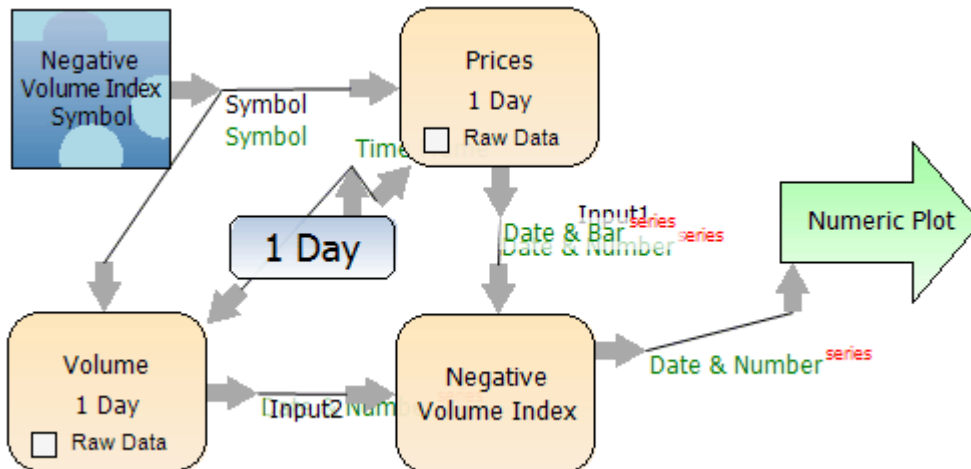
Negative Volume Index



Description

Returns the Negative Volume Index indicator for the Price (Input1) and Volume (Input2) provided.

See also the [Negative Volume Index](#) indicator.



The example above plots a Negative Volume Index of the daily Prices and Volumes for the selected Symbol.

Source Code

```
<WBIGuid("cbc3a9d3-e8f9-4055-afff-21f7b36a83ae"),FriendlyName("Negative Volume Index"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Negative Volume Index indicator for the Prices
(Input1) and Volumes (Input2) for the period provided.", "10/18/2006")> _
Public Class NegativeVolumeIndex
'Version 1.01
```

Inherits BaseTemplateDBSAndDBSToDLS

```
-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
'
' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.
' You are licensed to use this source code for your own private use.
```

```
' It may not be re-distributed or sold without express permission  
' from Worden Brothers, Inc..  
,  
,
```

```
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY  
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE  
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A  
' PARTICULAR PURPOSE.  
,
```

```
' For the source code and more information on this block go to  
' kb.worden.com And search for "Negative Volume Index."  
'-----
```

```
Dim NVI As Single = 0  
Dim prevClose As Single  
Dim close As Single  
Dim prevVolume As Single  
Dim volume As Single
```

```
Public Overrides Sub calculate()
```

```
prevClose = Me.CodeBlock.Input1Last(0)  
If prevClose = 0 Then prevClose = 1  
prevVolume = Me.CodeBlock.Input2Last(0)  
NVI = 1000
```

```
For i As Integer = 1 To Me.CodeBlock.InputCount - 1  
close = Me.CodeBlock.Input1Last(i)  
volume = Me.CodeBlock.Input2Last(i)
```

```
If volume < prevVolume Then  
NVI = NVI +(((close- prevClose)/prevClose)* NVI)  
End If
```

```
me.CodeBlock.AddToOutput(me.CodeBlock.InputDate(i), NVI)
```

```
prevClose = close  
prevVolume = volume  
Next
```

```
End Sub  
End Class
```

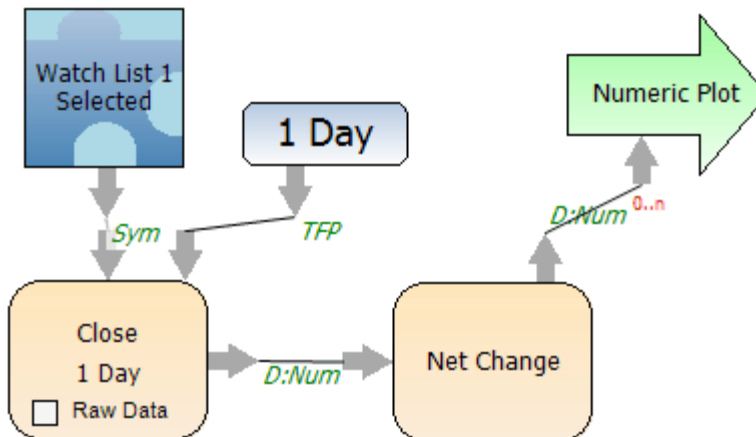
Net Change



Description

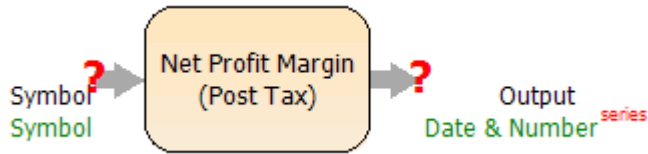
Provides Net Change for the Symbol provided.

Example



The example above plots Net Change of the Daily Close prices for the selected Watch List Symbol.

Net Profit Margin (Post Tax)



Description

Provides the Net Profit Margin (Post Tax) for the Symbol provided.

Definition

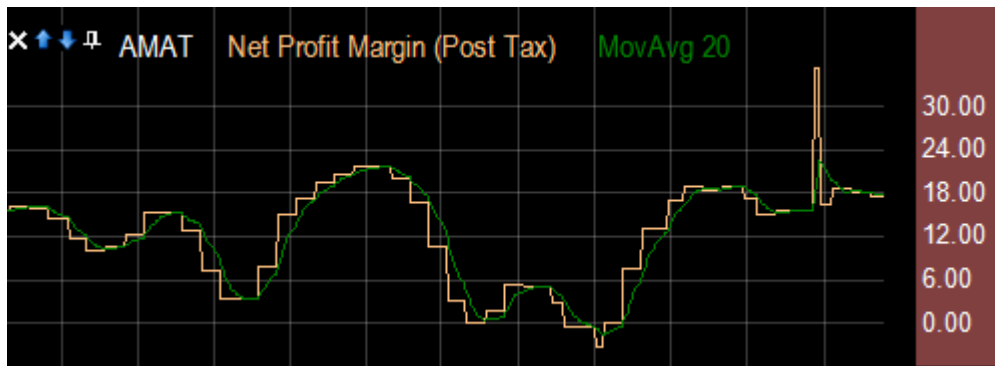
The after-tax Net Income from continuing operations of the latest 4 quarters, divided by the latest 4 quarters Operating Revenues.

Uses:

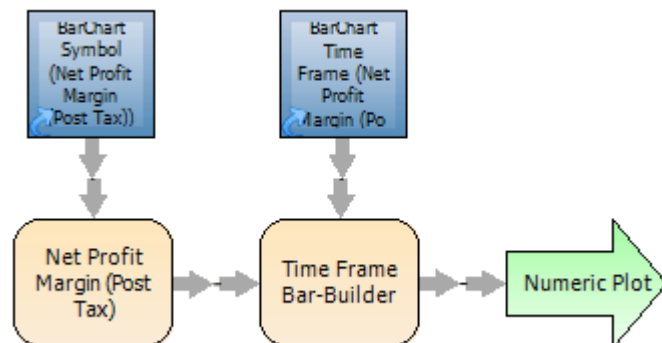
The Net Profit Margin (Post Tax) block is used to calculate the Net Profit Margin (Post Tax) indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Net Profit Margin (Post Tax) Personal Chartist Study.

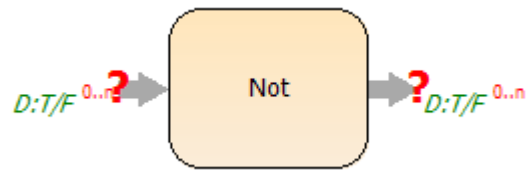


The Net Profit Margin (Post Tax) plot uses the Net Profit Margin (Post Tax) block to plot the indicator.



Block diagram for the Net Profit Margin (Post Tax) plot in the chart above.

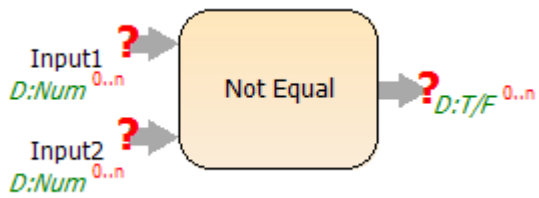
Not



Description

Reverses the Trues and Falses provided.

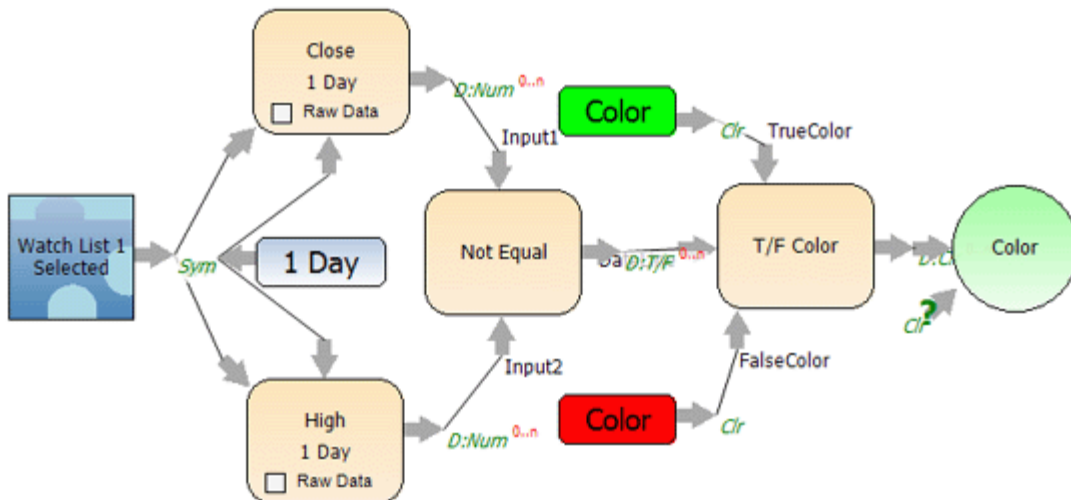
Not Equal



Description

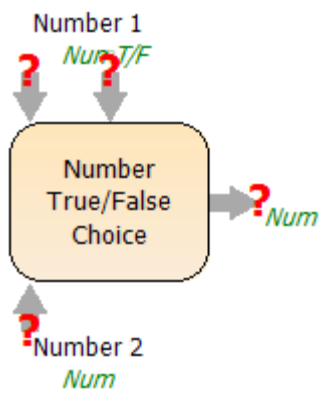
Returns True when Input1 does not equal Input2. Otherwise, it returns False.

Example



The example above colors the plot green when the Close does not equal the High and red when the Close does equal the High.

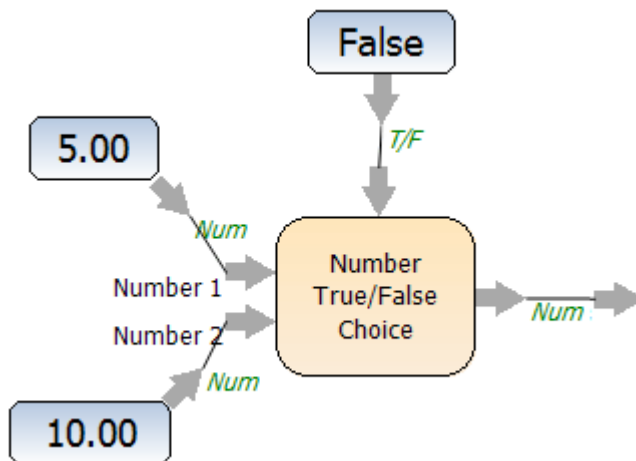
Number True/False Choice



Description

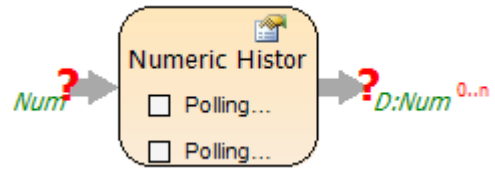
Returns Number 1 when True and Number 2 when False.

Example



The example above returns the number 10.00 since the T/F connector is set to False.

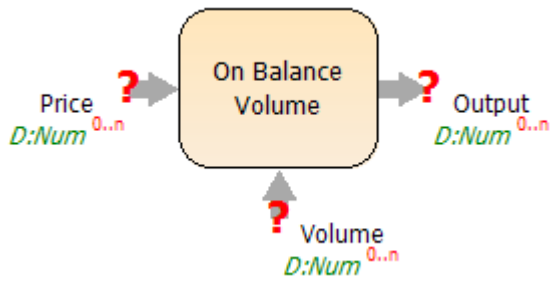
Numeric History Builder



Description

Builds History by polling the input number at a specified interval.

On Balance Volume



Description

Returns the On Balance Volume indicator for the Price and Volume provided.

See also the On [Balance Volume indicator](#).

Uses:

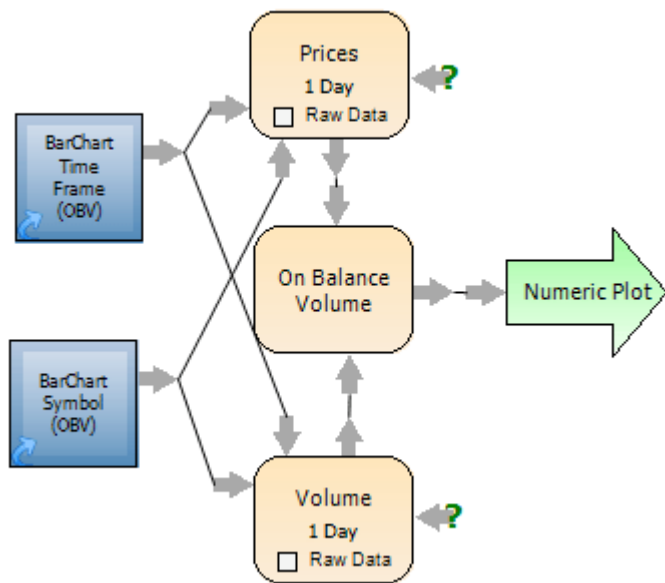
The On Balance Volume block is used to calculate the On Balance Volume indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the On Balance Volume Personal Chartist Study.

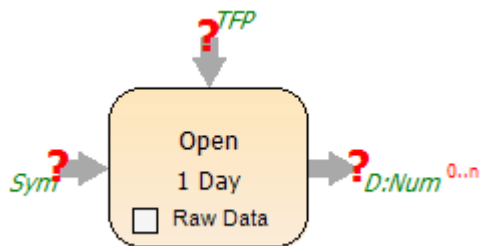


The On Balance Volume plot uses the On Balance Volume block to plot the indicator.



Block diagram for the On Balance Volume plot in the chart above.

Open



Description

Returns open prices for the Time Frame provided. When the Raw Data checkbox is checked, the timeframe connector's incoming value is not applied to the output BUT it does effect what type of data is provided to the block itself. For instance, if you have a 1 Day block connected to the Time Frame input and the Raw Data checkbox is checked, Blocks will ensure that the data coming into the block will be able to be converted to that timeframe. This is useful if you know you need a certain type of data (i.e. daily data) for calculations farther on down in your block diagram but you don't necessarily want to display your data in that time frame right now.

Uses:

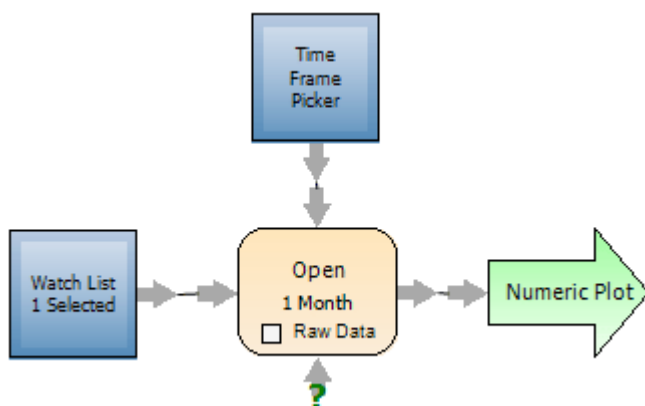
The Open block is used anytime you want to get access to the Open prices for a symbol. Uses include studies, strategies and values in columns.

Example:

The following example plots all the High prices for the selected WatchList symbol.

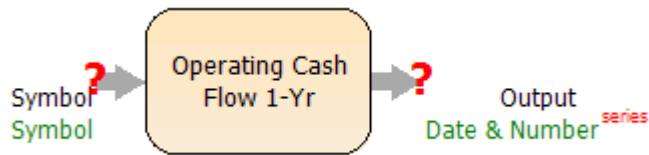


The Open Price History plot above uses the Open block to display Open Prices for the selected WatchList symbol.



Block diagram for the Open Price History plot above.

Operating Cash Flow 1-Yr



Description

Returns the 1 year operating cash Flow for the Symbol provided.

Definition

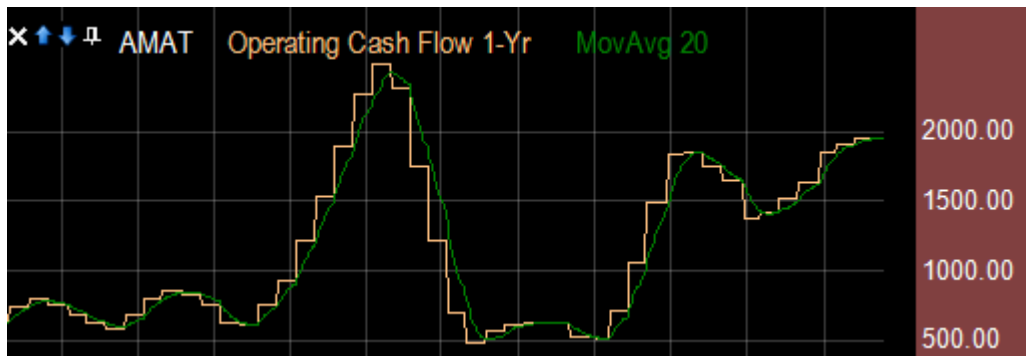
The sum of net profit, depreciation, change in accruals, and change in accounts payable, minus change in accounts receivable, minus change in inventories.

Uses:

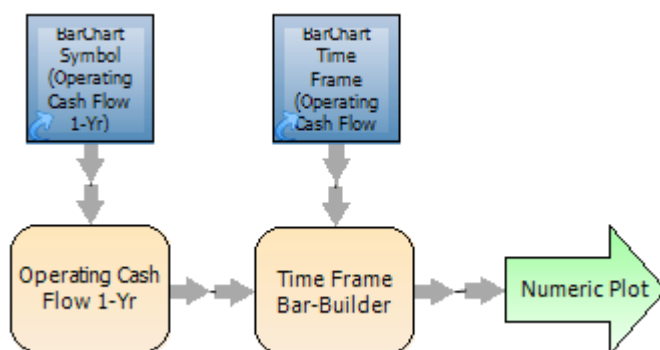
The Operating Cash Flow 1-Yr block is used to calculate the Operating Cash Flow 1-Yr indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Operating Cash Flow 1-Yr Personal Chartist Study.

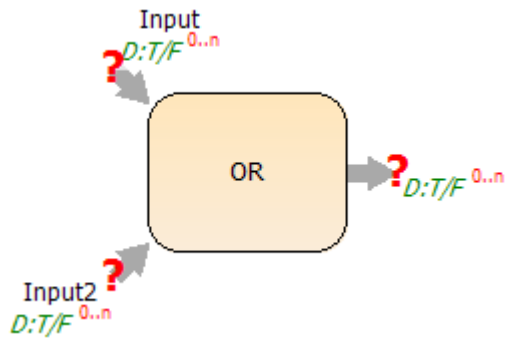


The Operating Cash Flow 1-Yr plot uses the Operating Cash Flow 1-Yr block to plot the indicator.



Block diagram for the Operating Cash Flow 1-Yr plot in the chart above.

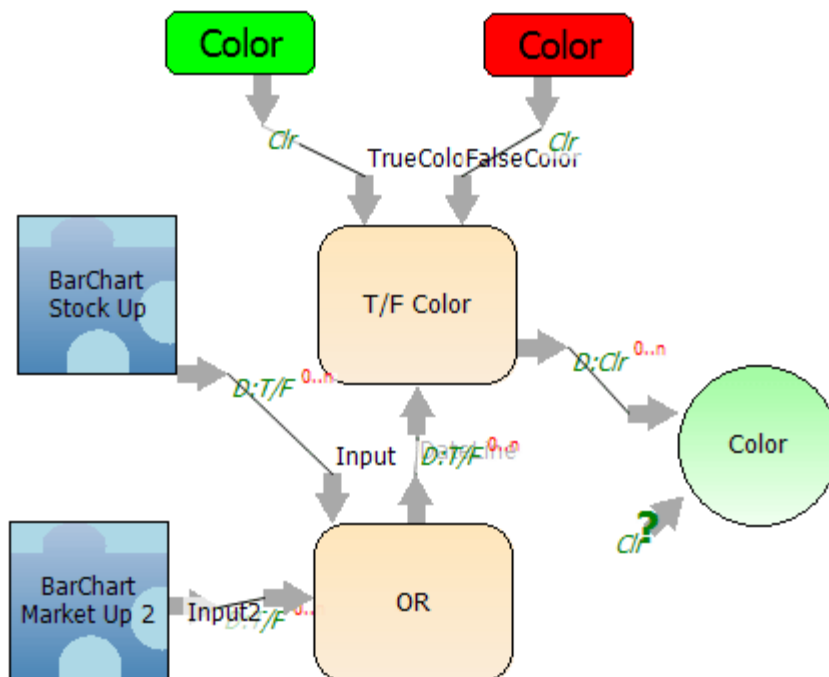
Or (Date & True/False)



Description

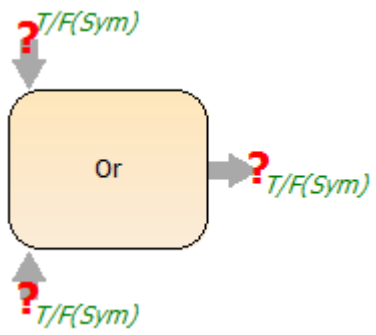
Returns True if either input is True.

Example



The example above colors the plot green if either the BarChart Stock Up line's value is true or the BarChart Market Up 2 line's value is true. Otherwise the value would be colored red.

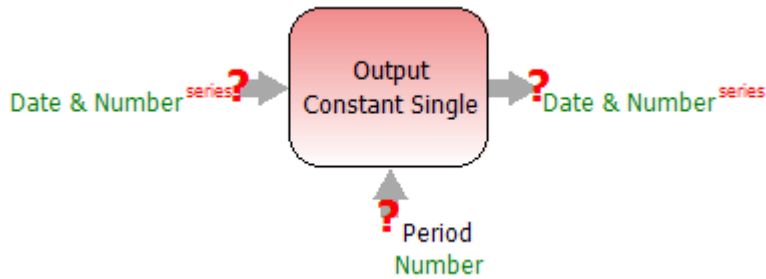
Or (TrueFalse(Symbol))



Description

Returns True if either input is True. Otherwise, it returns False.

Output Constant Single



Description

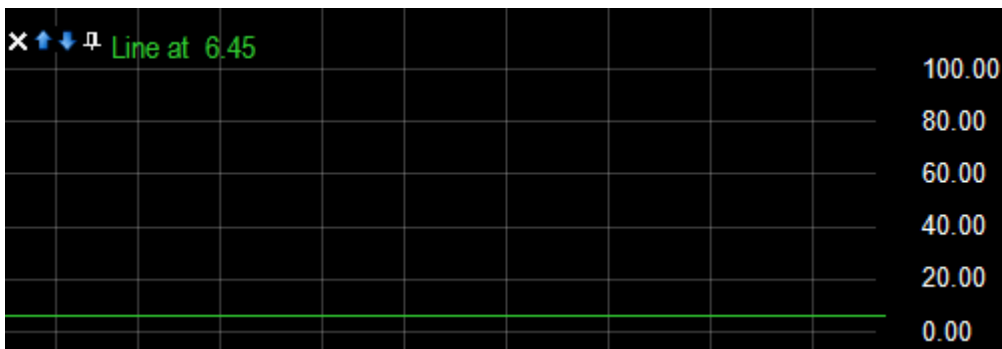
Provides a constant single value equal to the period value provided. This value is not effected by the input line but the input connector does have to be connected for the block to output its constant single.

Uses:

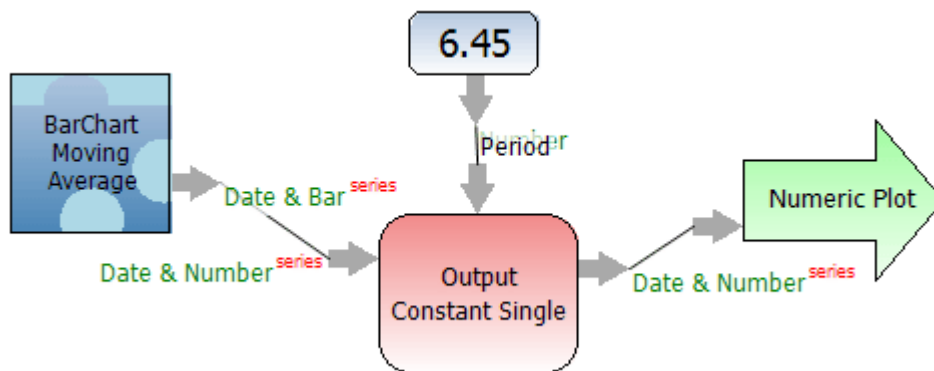
The Output Constant Single block comes in handy for testing custom codeblocks. Knowing exactly what values are going into your code block can be a great help when you are trying to debug. The block can also be used to just display a horizontal line on a chart for use as a reference line.

Example:

The following example draws a horizontal line on a chart at 6.45.



The Line at 6.45 plot uses the Output Constant Single block to draw a horizontal line at 6.45.



Block diagram for the plot in the chart above. Note that it makes no difference what is connected to the Date & Number Series input of the block but it does have to be connected for the line to be displayed.

Source Code

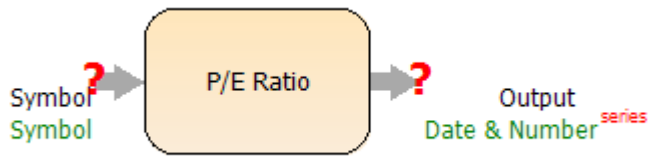
```
<WBIGuid("d25e067f-fb68-4bcd-bc8f-8a628247384e"),FriendlyName("Output Constant Single"), _
```

```
ClassAuthor("The Blocks Company,LLC - JK", "Provides a constant single value equal to the period value
provided. This value is not effected by the input line.", "10/18/2006")> _
Public Class Output_Constant_Single
inherits BaseTemplateDLSAndSingleToDLS
Public Overrides Sub calculate()
-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
'
' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.
' You are licensed to use this source code for your own private use.
' It may not be re-distributed or sold without express permission
' from Worden Brothers, Inc..
'
'
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Output Constant Single."
-----

For i As Integer = 0 To Me.CodeBlock.InputCount -1

Me.CodeBlock.AddToOutput(inputdate(i), Me.CodeBlock.ParameterValue)
Next
End Sub
End Class
```

P/E Ratio



Description

Returns the P/E Ratio for the Symbol provided.

See also the [P/E Ratio](#) indicator.

Definition

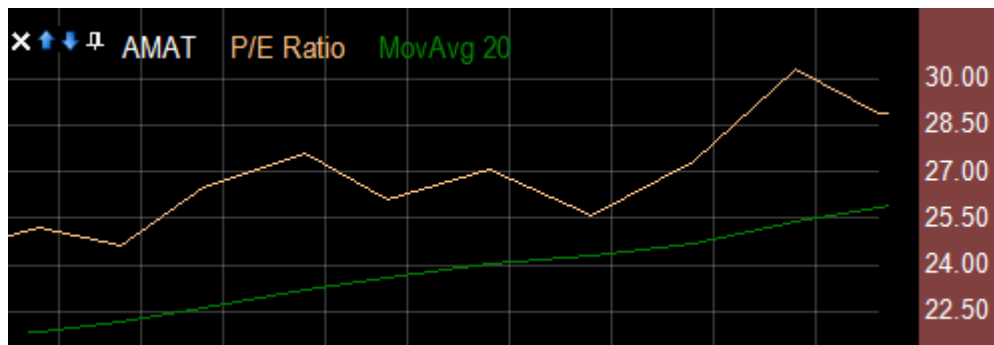
The price per share divided by the trailing 12 month's earnings per share. Companies with negative earnings are designated N/A.

Uses:

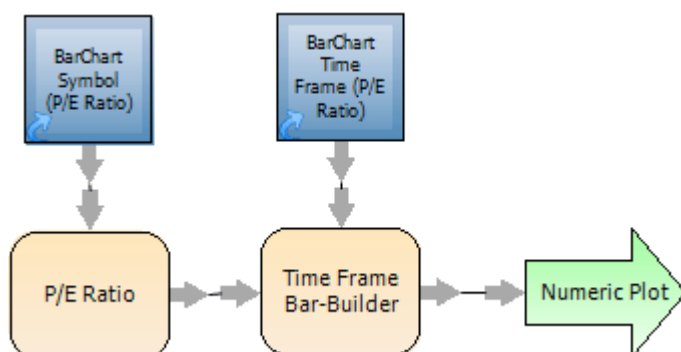
The P/E Ratio block is used anytime you want to display the P/E Ratio for a particular symbol. Uses include studies, strategies and single values in tables, data displays and columns.

Example:

The following example is the P-E Ratio study from Personal Chartist.

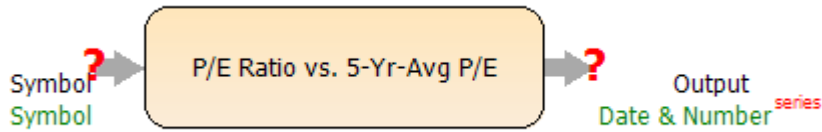


The P/E Ratio plot above uses the P/E Ratio block to plot the fundamental indicator.



Block diagram for the P/E Ratio plot in the chart above.

P/E Ratio vs 5-Yr Average P/E



Description

Returns the P/E Ratio versus the 5 year P/E ratio for the Symbol provided.

See also the [P/E Ratio](#) indicator.

Definition

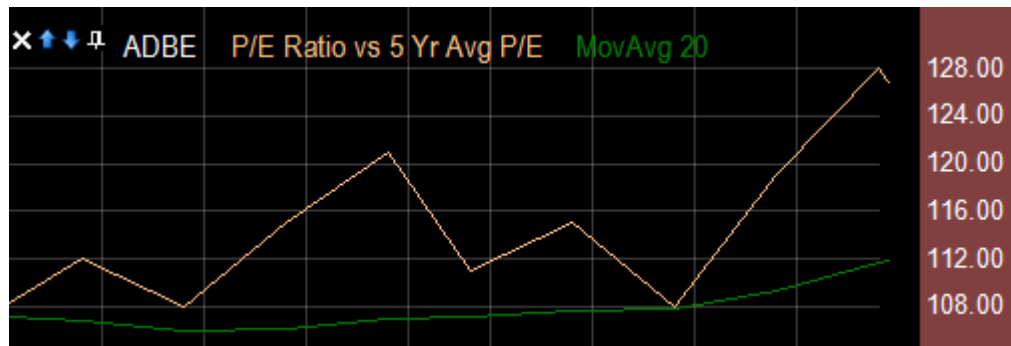
This is the current P/E ratio divided by the average of the last five year's P/E ratio. Expressed as a percentage: a value of 80, for instance, would mean that the current P/E is 80% of the five year average. This value shows whether a stock is reasonably priced relative to its own history.

Uses:

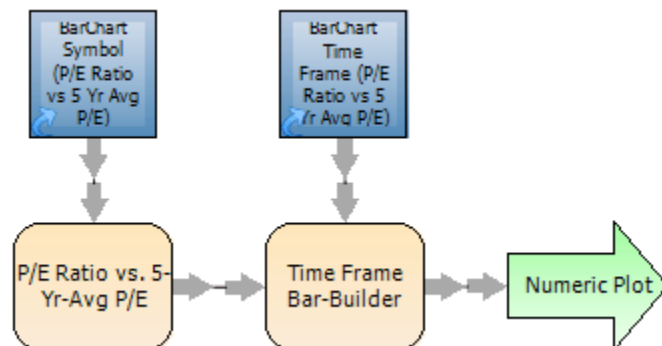
The P/E Ratio vs. 5-Yr-Avg P/e block is used anytime you want to display P/E Ratio versus the 5 year average P/E Ratio. Uses include studies, strategies and single values in labels, data displays and columns.

Example:

The following example is the P-E Ratio vs. 5 Yr Avg P-E study from Personal Chartist.

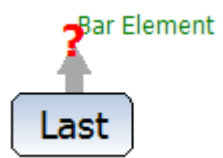


The P/E Ratio vs 5 Yr Avg P/E plot uses the P/E Ratio vs. 5-Yr-Avg P/E block to plot the fundamental indicator.



Block diagram for the P/E Ratio vs 5 Yr Avg P/E plot in the chart above.


Parameter: Bar Element



Description

Indicates which element of bar to use if only one element of the bar is to be used.

Parameter: Color

Legend Prefix	
Opacity	100
QuickEdit Field Name	Color
Show in QuickEdit	True
Value	 255, 0, 0
Ok	



Description

Provides a user defined color. Double-click the block to change it's properties.

Uses:

The Parameter: Color block can be used anytime there is a color input in a block or block diagram. It is used to color almost everything in Blocks including lines, bars, columns, fonts, and legend displays.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text will show up in the legend.

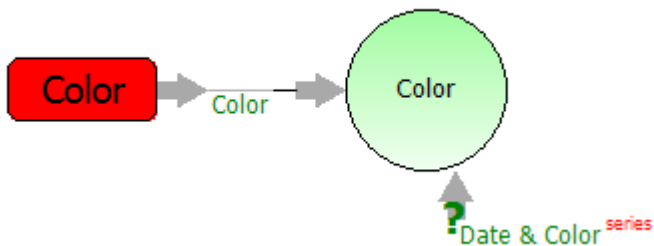
Opacity - Sets how transparent a color is. A value of 0 makes the color completely transparent, or invisible. A value of 100 makes the color completely opaque.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Value - The Color that this block will provide.

Example

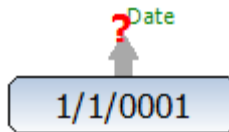


The example above colors a chart plot red.

Parameter: Date

Legend Prefix	
QuickEdit Field Name	Date
Show In Legend	False
Show in QuickEdit	True
Value	4/26/2006

Ok



Description

Provides a user defined Date. Double-click the block to change its properties.

Uses:

The Parameter: Date block is used anytime you want to feed a specific date into another block. Uses include truncating incoming data, and displaying dates in legends and data

displays.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text along with the text in the "Value" property will show up in the legend.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

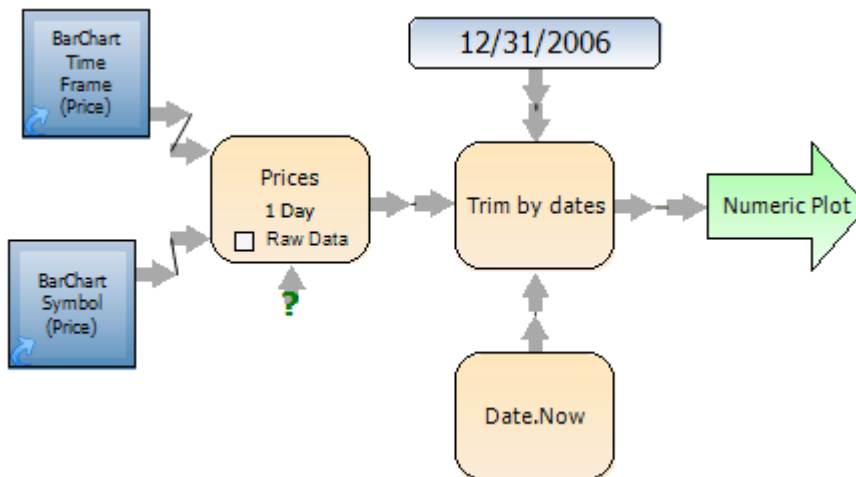
Value - The Date that this block will provide.

Example:

The following example truncates the data for YHOO using the Parameter: Date block to specify the starting point of the data.



Both panes in the chart above contain price history for YHOO but the top one uses the Parameter: Date block to specify the starting point of the data.

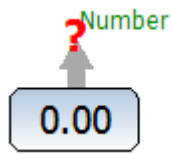


Block diagram for the Price History plot in the top pane of the chart above.

Parameter: Decimal Number

Legend Prefix	
QuickEdit Field Name	Number
Show In Legend	True
Show in QuickEdit	True
Value	6

Ok



Description

Provides a user defined decimal number. Double-click the block to change its properties.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text along with the decimal number in the "Value" property will show up in the legend.

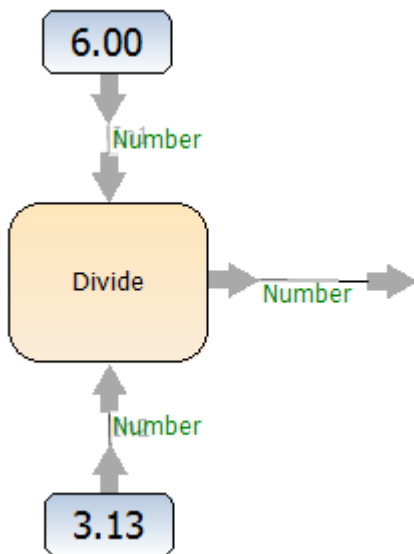
Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Value - The decimal number that this block will provide.

Example

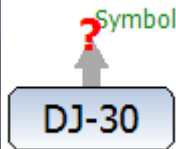


In the example above two Parameter: Decimal Numbers are being divided.

Parameter: Symbol

Legend Prefix	
QuickEdit Field Name	Symbol
Show In Legend	True
Show in QuickEdit	True
Value	DJ-30

Ok



Description

Provides a Symbol. Double-Click the block to change its Properties.

Uses

The Parameter: Symbol block is used anytime you want to feed a specific symbol to another block. Uses include studies and strategies as well as columns and legend displays.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

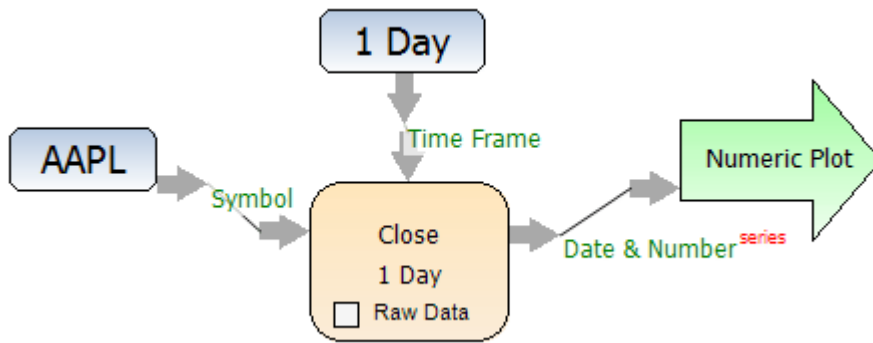
Value - The Symbol that this block will provide.

Example

The following example is a Price History chart that has been set to display price history for the Symbol AAPL using the Parameter: Symbol block.



The Price History plot above displays the price history for AAPL using the Parameter: Symbol block.



Block diagram for the Price History plot in the chart above.

Parameter: Text

Legend Prefix	
QuickEdit Field Name	Text
Show In Legend	False
Show in QuickEdit	True
Value	{Sym}

Ok



Description

Provides user defined text. Double-click on the block to change the properties of the block.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text along with the text in the "Value" property will show up in the legend.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Value - The text that this block will provide.

Example

The following example is the Google Finance browser from Personal Chartist. It uses two Parameter: Text blocks, one for the web address for Google Finance, and the other to specify which part of the web address to replace with the text for the selected WatchList symbol.

Google Finance Company Info

NVDA: 35.10 +0.52 (1.50%) - NVIDIA Corporation

[Web](#) [Images](#) [Video](#) [News](#) [Maps](#) [Gmail](#) [more](#) [Portfolios](#) | [Sign In](#)

Google Finance BETA Search
e.g. "CSCO" or "Google"

NVIDIA Corporation (Public, NASDAQ:NVDA) Find more results for [NVDA](#)
- [Add to Portfolio](#) - [Discuss NVDA](#)

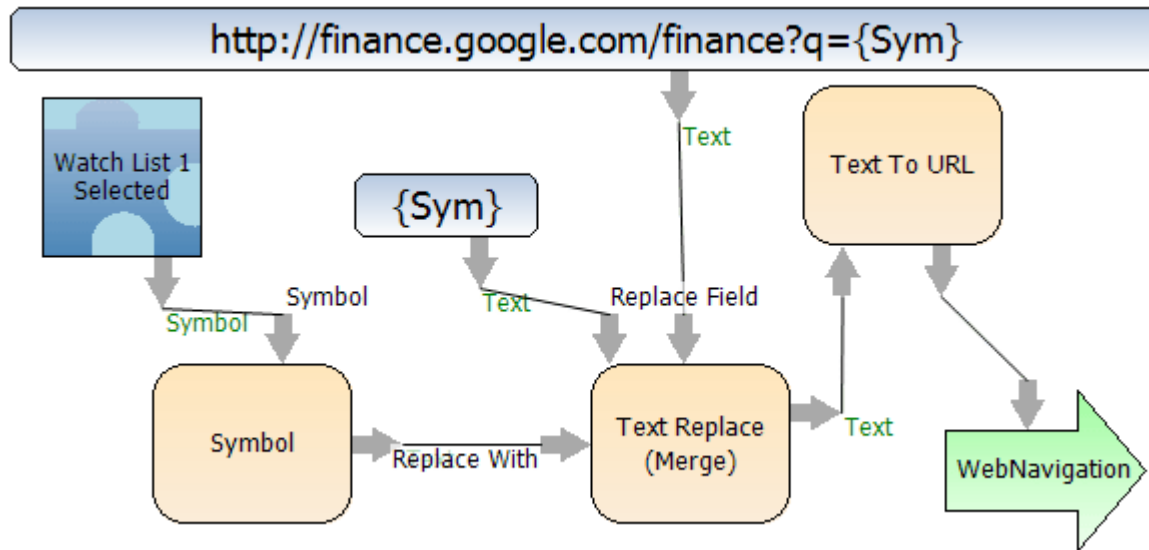
35.10 Open: 34.95 Mkt Cap: 19.26B P/E: 36.49 Di
High: 35.12 52Wk High: 50.79 F P/E: 22.53 Yi
+0.52 (1.50%) Low: 34.45 52Wk Low: 18.45 Beta: 3.40 SI
Delayed: 11:50AM ET Vol: 3.81M Avg Vol: 11.00M EPS: 0.96 In

[Compare](#) [Settings](#)

Charts can now display extended hours trading - [Learn more](#) | [Settings](#)

Zoom: [1d](#) [5d](#) [1m](#) [3m](#) [6m](#) [YTD](#) [1y](#) [5y](#) [10y](#) [Max](#) Sep 10 - Sep 12, 20

The Google Finance browser from Personal Chartist uses two Parameter: Text blocks to display the web page for the selected WatchList symbol.



Block diagram for the Google Finance browser above. The top most Parameter: Text block contains the web address for Google Finance. The second Parameter: Text block ({Sym}) tells the Text Replace (Merge) block which part of the Google Finance web address to replace with the symbol's text.

Parameter: Time Interval

IntervalType	Day
Legend Prefix	
Number of Intervals	1
QuickEdit Field Name	Time Frame
Show In Legend	False
Show in QuickEdit	True
Ok	

Time Interval



1 Day

Description

Provides a user defined time interval. Double click the block to change its properties.

Block Properties

Interval Type - The interval that the block will provide.

Intervals include Day, Month, Year and several others.

Legend Prefix - The text to be displayed for this block in the legend.

Number of Intervals - Sets how many of the interval type the block provides. For example, if this is set to "2" and the Interval Type is set to "Day," the block would provide a 2 day interval.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

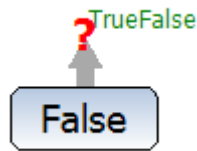
Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Parameter: True/False

Legend Prefix	
QuickEdit Field Name	Number
Show In Legend	True
Show in QuickEdit	True
Value	False

Ok



Description

Provides a user defined True or False value. Double-click the block to change its properties.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text along with the True or False in the "Value" property will show up in the legend.

Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Value - The True or False value that this block will provide.

Parameter: URL

Legend Prefix	
QuickEdit Field Na	Text
Show In Legend	False
Show in QuickEdit	True
Value	http://finance.google.
<input type="button" value="Ok"/>	



Description

Provides a user defined URL. Double-click the block to change its properties.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text along with the URL in the "Value" property will show up in the legend.

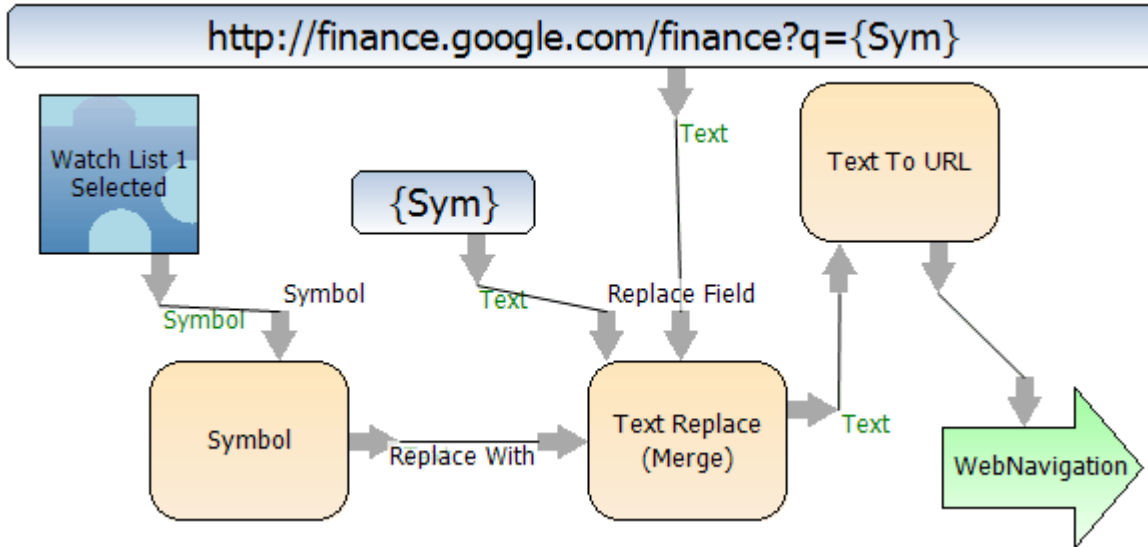
Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

Value - The URL that this block will provide.

Example

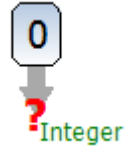


In the example above, the Parameter: URL block is providing the url (finance.google.com) that the Text Replace (Merge) block is merging the symbol text into.

Parameter: Whole Number

Legend Prefix	Period
QuickEdit Field Name	Period
Show In Legend	True
Show in QuickEdit	True
Value	0

Ok



Description

Provides a user defined whole number. Double-click the block to change its properties.

Block Properties

Legend Prefix - The text to be displayed for this block in the legend. If the "Show In Legend" property is set to true, this text along with the number in the "Value" property will show up in the legend.

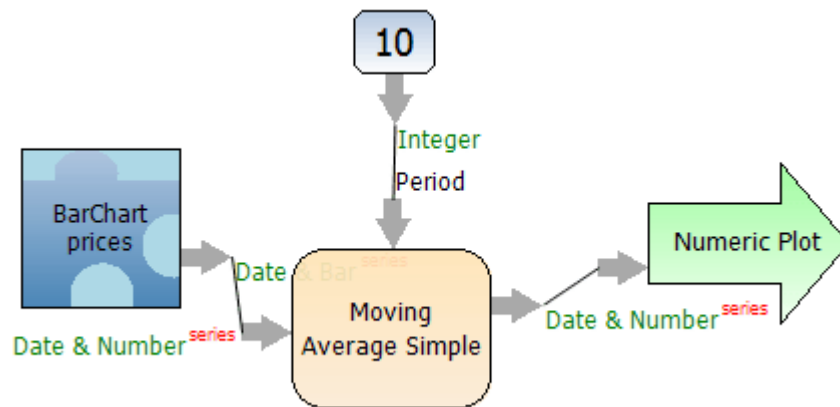
Quick Edit Field Name - The text that will be displayed for this block in the QuickEdit menu.

Show In Legend - Sets whether or not the block's information shows up in a legend.

Show in QuickEdit - Sets whether or not this block will show up in the QuickEdit menu.

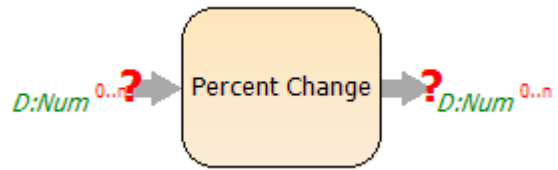
Value - The number that this block will provide.

Example



In the example above the Parameter: Whole Number block is used to set the period for the Moving Average Simple block.

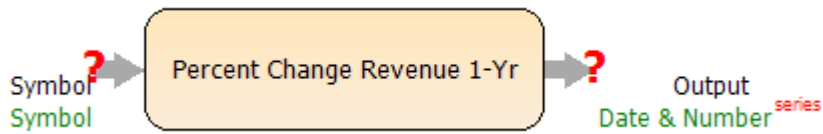
Percent Change



Description

Returns the Percent Change for the Period.

Percent Change Revenue 1-Yr



Definition

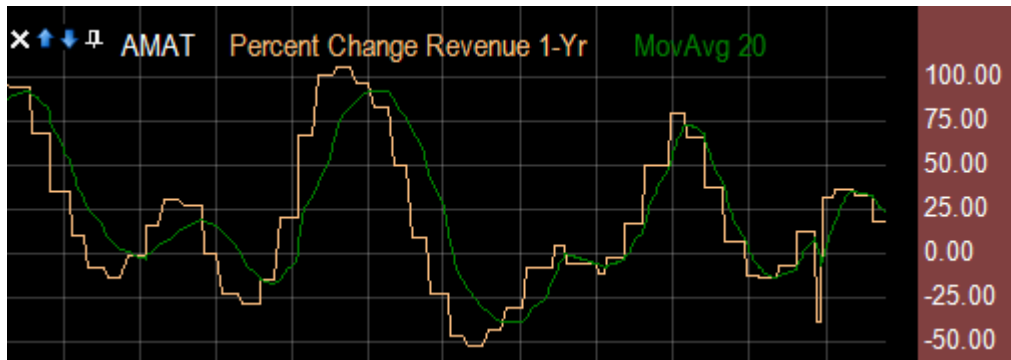
The difference between the revenue from the latest 12 months and the previous 12 months expressed as a percentage.

Uses:

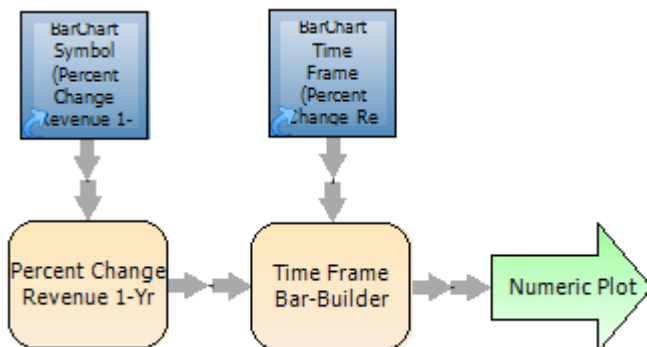
The Percent Change Revenue 1-Yr block is used to calculate the Percent Change Revenue 1-Yr indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Percent Change Revenue 1-Yr Personal Chartist Study.

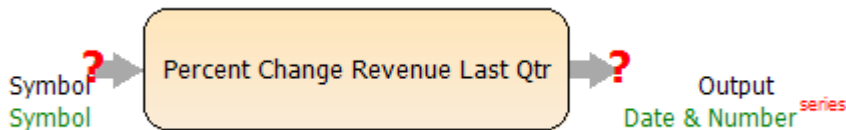


The Percent Change Revenue 1-Yr plot uses the Percent Change Revenue 1-Yr block to plot the indicator.



Block diagram for the Percent Change Revenue 1-Yr plot in the chart above.

Percent Change Revenue Last Qtr



Definition

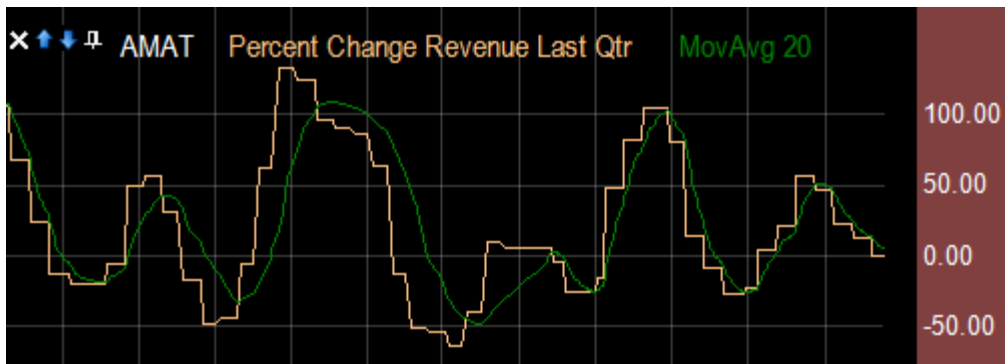
The difference between the latest quarter revenue and the revenue for the same quarter one year ago, expressed as a percentage.

Uses:

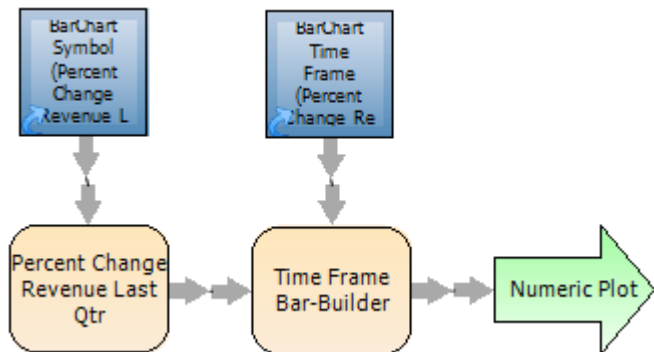
The Percent Change Revenue Last Qtr block is used to calculate the Percent Change Revenue Last Qtr indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Percent Change Revenue Last Qtr Personal Chartist Study.

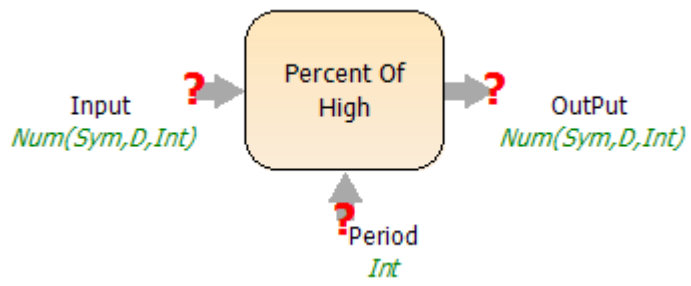


The Percent Change Revenue Last Qtr plot uses the Percent Change Revenue Last Qtr block to plot the indicator.



Block diagram for the Percent Change Revenue Last Qtr plot in the chart above.

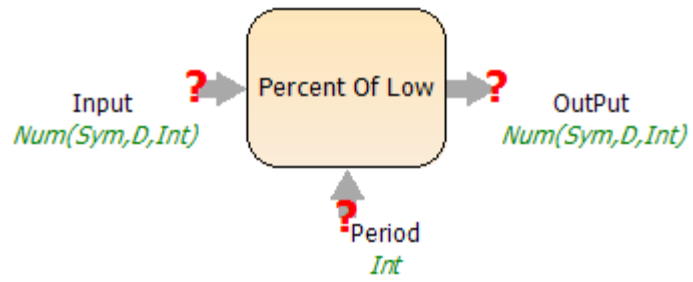
Percent of High



Description

Compares each value to the high for the period provided and returns the percentage of the high that each value is.

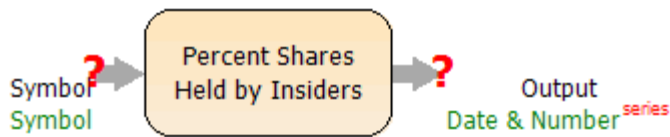
Percent of Low



Description

Compares each value to the low for the period provided and returns the percentage of the low that each value is.

Percent Shares Held by Insiders



Definition

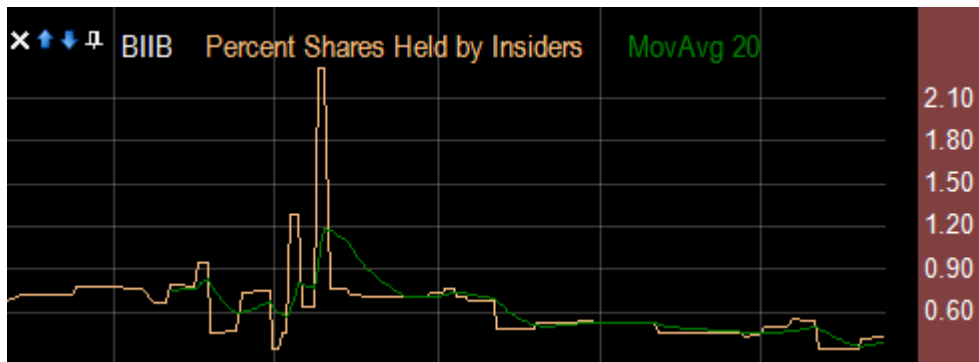
The percentage of the latest shares outstanding held by insiders of the company.

Uses:

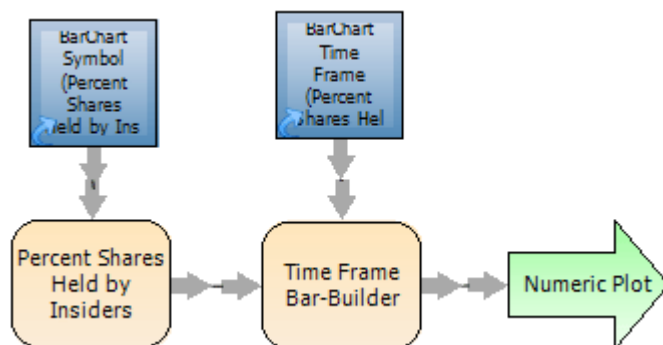
The Percent Shares Held by Insiders block is used to calculate the Percent Shares Held by Insiders indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Percent Shares Held by Insiders Personal Chartist Study.

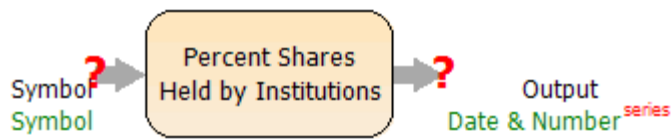


The Percent Shares Held by Insiders plot uses the Percent Shares Held by Insiders block to plot the indicator.



Block diagram for the Percent Shares Held by Insiders plot in the chart above.

Percent Shares Held by Institutions



Definition

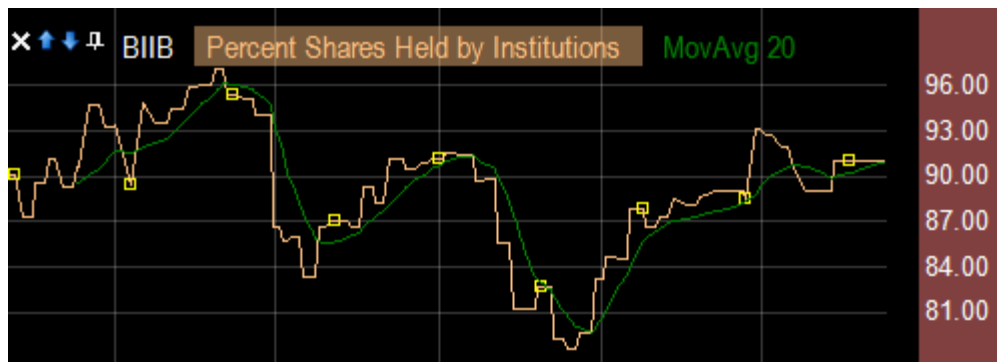
The total number of shares held by institutions divided by the total number of shares outstanding.

Uses:

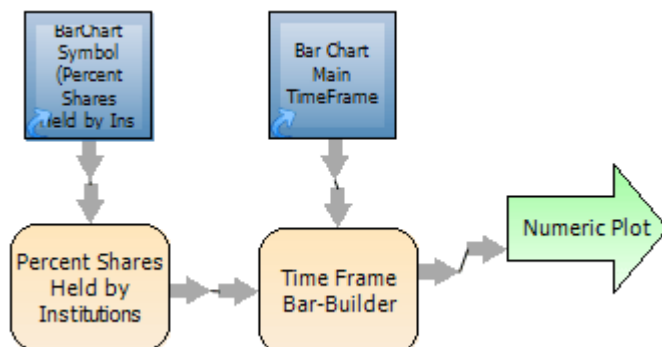
The Percent Shares Held by Institutions block is used to calculate the Percent Shares Held by Institutions indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Percent Shares Held by Institutions Personal Chartist Study.

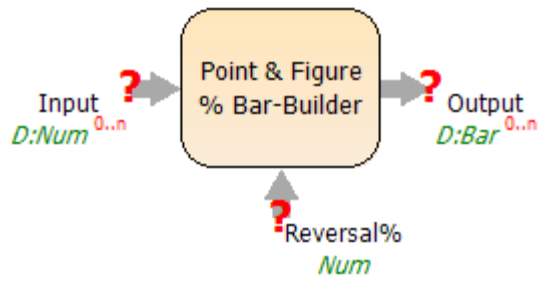


The Percent Shares Held by Institutions plot uses the Percent Shares Held by Institutions block to plot the indicator.



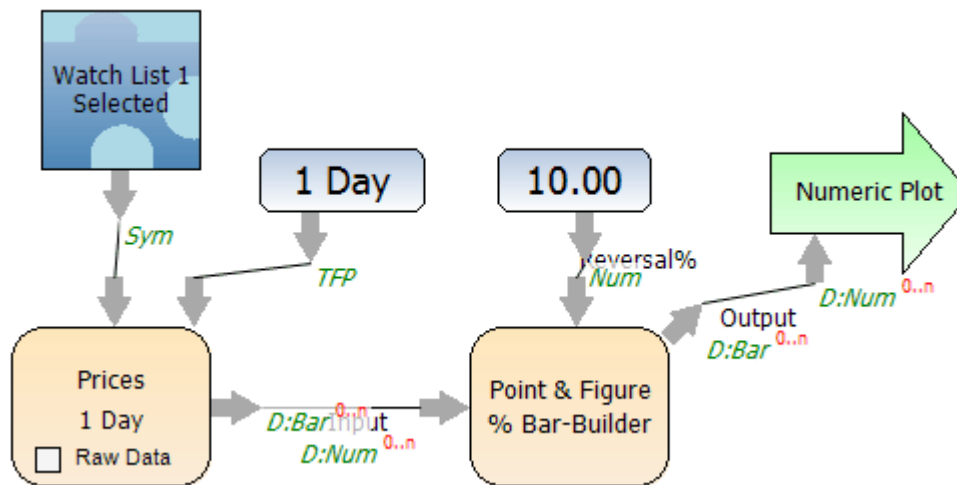
Block diagram for the Percent Shares Held by Institutions plot in the chart above.

Point & Figure % Bar-Builder



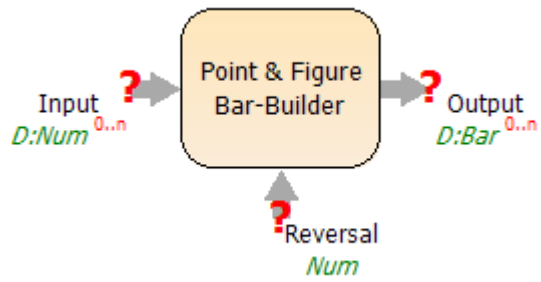
Description

Returns Point and Figure bars for the reversal percentage provided.



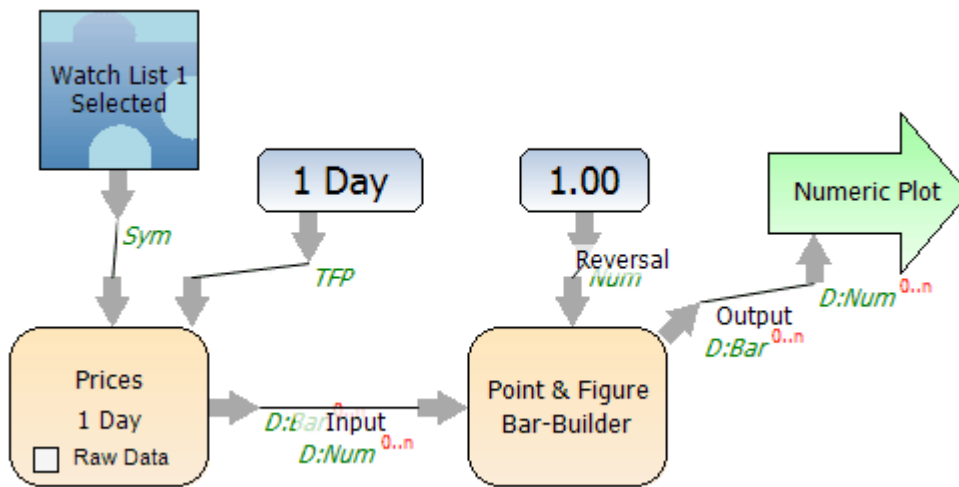
The example above Point & Figure bars of Daily prices based on a 10% reversal.

Point & Figure Bar Builder



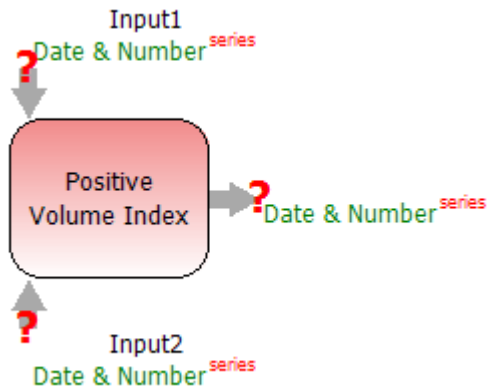
Description

Returns Point and Figure Bars for the reversal amount provided.



The example above Point & Figure bars of Daily prices based on a \$1 reversal.

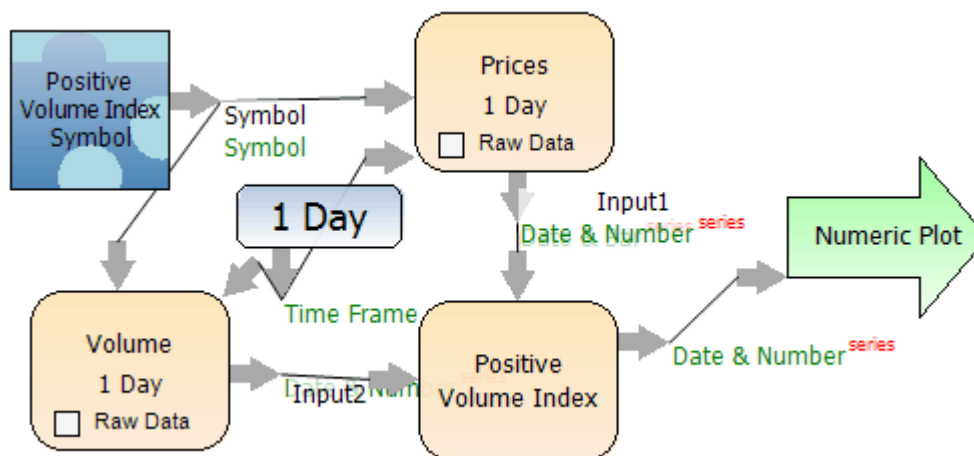
Positive Volume Index



Description

Returns the Positive Volume Index indicator for the Prices (Input1) and Volumes (Input2) provided.

See also the [Positive Volume Index](#) indicator.



The above example plots a Positive Volume index for the daily Prices and Volumes provided for the selected Symbol.

Source Code

```
<WBIGuid("cedfbc95-fff1-43d5-9949-936ffcf45a5e"),FriendlyName("Positive Volume Index"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Positive Volume Index indicator for the Prices
(Input1) and Volumes (Input2) for the period provided.", "10/18/2006")> _
Public Class PositiveVolumeIndex
Inherits BaseTemplateDBSAndDBSToDLS
'Version 1.01
```

```
Dim PVI As Single = 0
Dim prevClose As Single
Dim close As Single
Dim prevVolume As Single
Dim volume As Single
```

```
Public Overrides Sub calculate()
```

```
-----
' This file is part of the Blocks Code Library.
```

' Copyright (C) Worden Brothers, Inc.. All rights reserved.

' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.

' You are licensed to use this source code for your own private use.

' It may not be re-distributed or sold without express permission
' from Worden Brothers, Inc..

' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.

' For the source code and more information on this block go to
' kb.worden.com And search for "Positive Volume Index."

prevClose = Me.CodeBlock.Input1Last(0)
If prevClose = 0 Then prevClose = 1
prevVolume = Me.CodeBlock.Input2Last(0)
PVI = 1000

For i As Integer = 1 To Me.CodeBlock.InputCount - 1
close = Me.CodeBlock.Input1Last(i)
volume = Me.CodeBlock.Input2Last(i)

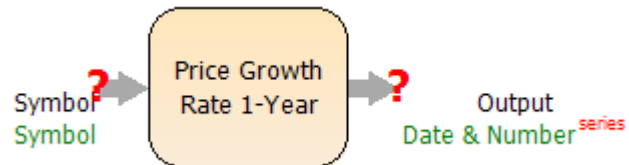
If volume > prevVolume Then
PVI = PVI + (((close - prevClose) / prevClose) * PVI)
End If

Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), PVI)

prevClose = close
prevVolume = volume
Next

End Sub
End Class

Price Growth Rate 1-Year

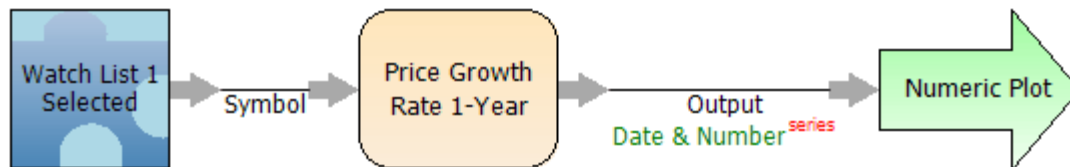


Description

Returns the 1-year Price Growth Rate for the Symbol provided.

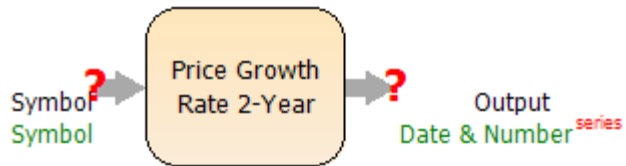
Definition

This is the compound annual growth rate of price over the last year, derived using the least squares method.



The example above draws a line of the 1-year Price Growth Rate for the selected Symbol.

Price Growth Rate 2-Year

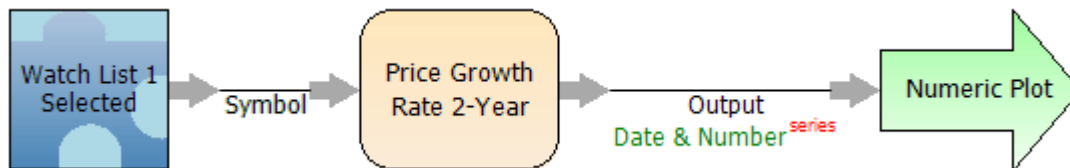


Description

Returns the 2-year Price Growth Rate for the Symbol provided.

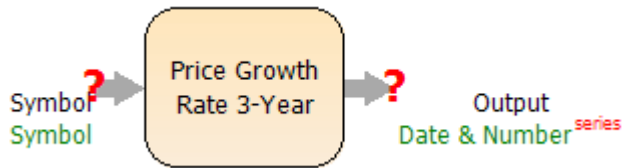
Definition

This is the compound annual growth rate of price over the last two years, derived using the least squares method.



The example above draws a line of the 2-year Price Growth Rate for the selected Symbol.

Price Growth Rate 3-Year

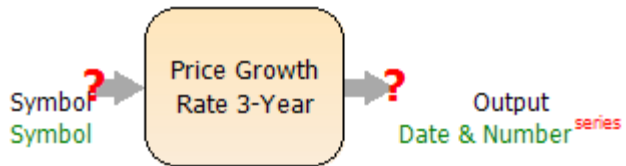


Description

Returns the 3-year Price Growth Rate for the Symbol provided.

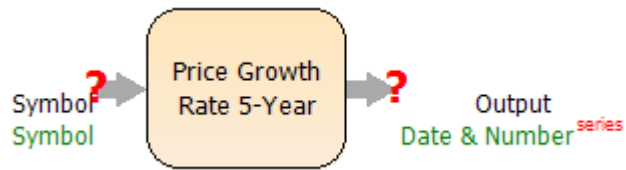
Definition

This is the compound annual growth rate of price over the last three years, derived using the least squares method.



The example above draws a line of the 3-year Price Growth Rate for the selected Symbol.

Price Growth Rate 5-Year

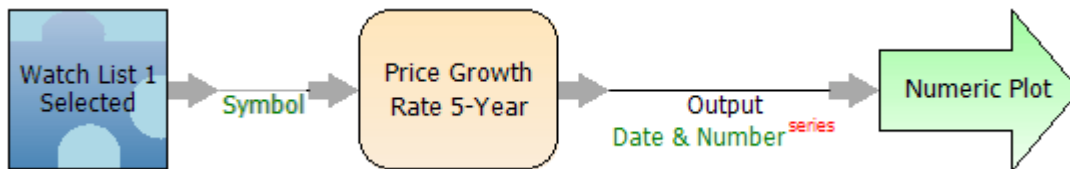


Description

Returns the 5-year Price Growth Rate for the Symbol provided.

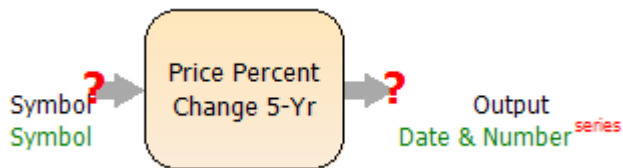
Definition

This is the compound annual growth rate of price over the last 5 years, derived using the least squares method.



The example above draws a line of the 5-year Price Growth Rate for the selected Symbol.

Price Percent Change 5-Yr



Description

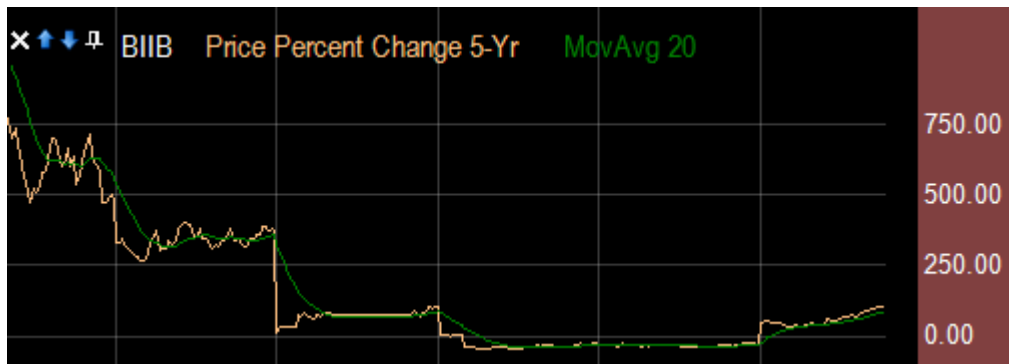
Returns the 5-year Percent Change in Price.

Uses:

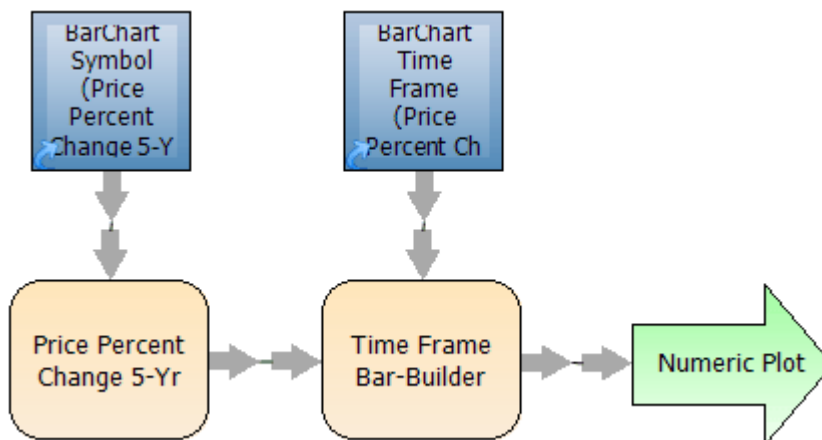
The Price Percent Change 5-Yr block is used to calculate the Price Percent Change 5-Yr indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Price Percent Change 5-Yr Personal Chartist Study.

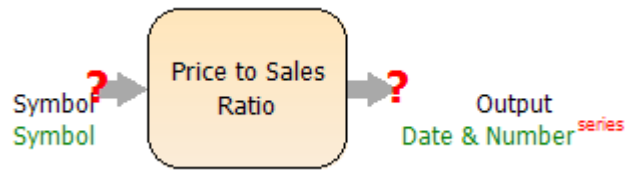


The Price Percent Change 5-Yr plot uses the Price Percent Change 5-Yr block to plot the indicator.



Block diagram for the Price Percent Change 5-Yr plot in the chart above.

Price to Sales Ratio

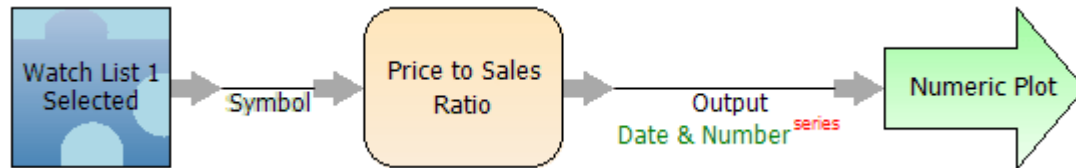


Description

Returns the Price to Sales Ratio for the Symbol provided.

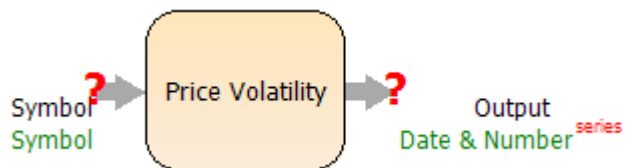
Definition

Determined by dividing current stock price by revenue per share (adjusted for stock splits). Revenue per share for the P/S ratio is determined by dividing revenue for past 12 months by number of shares outstanding.



The above example draws a line that is the Price to Sales Ratio for the selected Symbol.

Price Volatility



Description

Returns the Volatility for the Symbol provided. Volatility is a measurement that shows the degree of fluctuation that a security experiences.

Definition

This is a measure of the propensity of a stock's share price to fluctuate widely. This indicator is calculated as follows: The stock's calendar weekly percentage magnitude change over the last 13 calendar weeks is averaged. The stock's final volatility is found by multiplying its average by 10.

Uses:

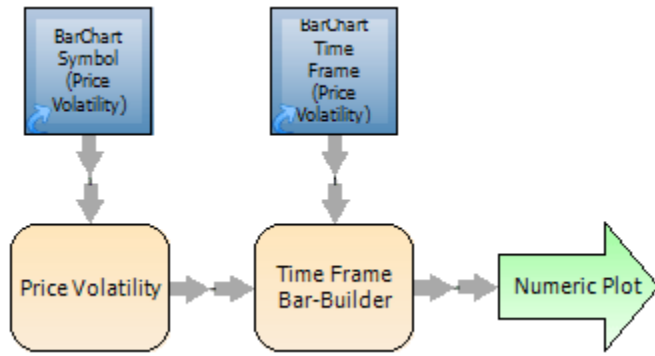
The Price Volatility block is used to calculate Price Volatility for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Price Volatility Personal Chartist Study.

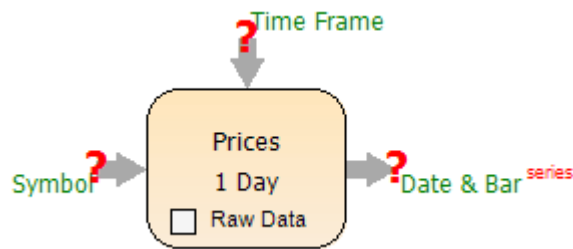


The Price Volatility plot uses the Price Volatility block to plot the indicator.



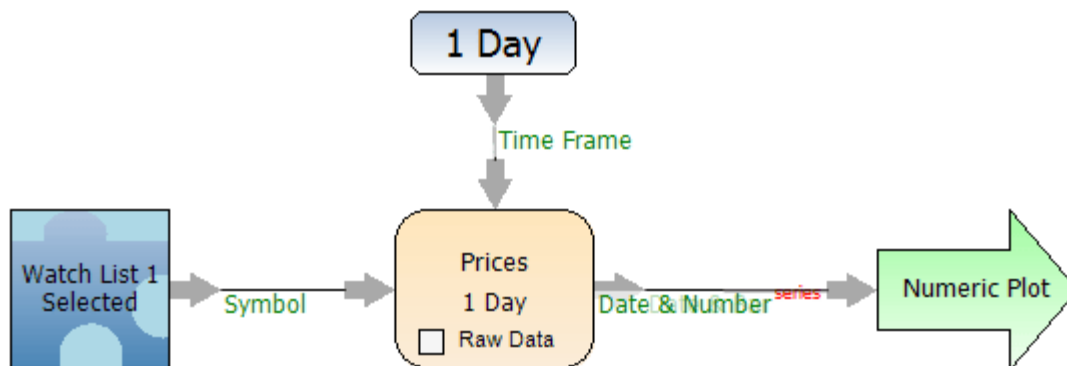
Block diagram for the Price Volatility plot in the chart above.

Prices



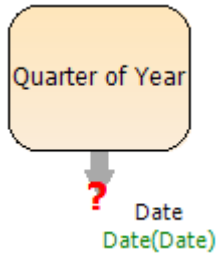
Description

Returns Prices for the symbol provided in the timeframe provided. When the Raw Data checkbox is checked, the timeframe connector's incoming value is not applied to the output BUT it does effect what type of data is provided to the block itself. For instance, if you have a 1 Day block connected to the Time Frame input as in the example below, and the Raw Data checkbox is checked, Blocks will ensure that the data coming into the block will be able to be converted to that timeframe. This is useful if you know you need a certain type of data (i.e. daily data) for calculations farther on down in your block diagram but you don't necessarily want to display your data in that time frame right now.



The above example draws a line of Daily prices for the selected WatchList Symbol. If a 1 Week block was connected to the Time Frame connector, the line would be Weekly prices for the selected WatchList Symbol.

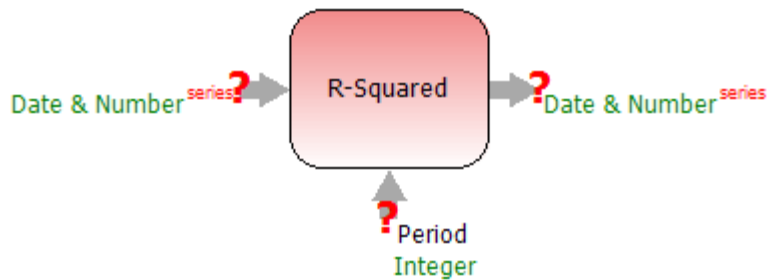
Quarter of Year



Description

Returns the quarter of the year that the given date falls in.

-Squared



Description

Provides the R-Squared indicator for the period provided.

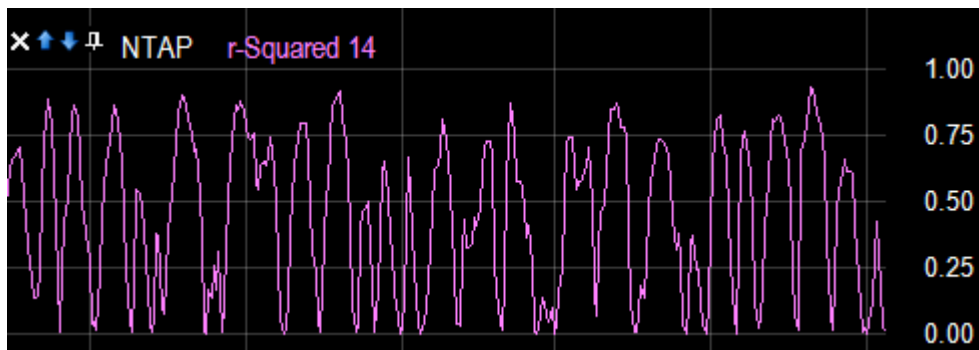
See also the [R-Squared](#) Indicator.

Uses:

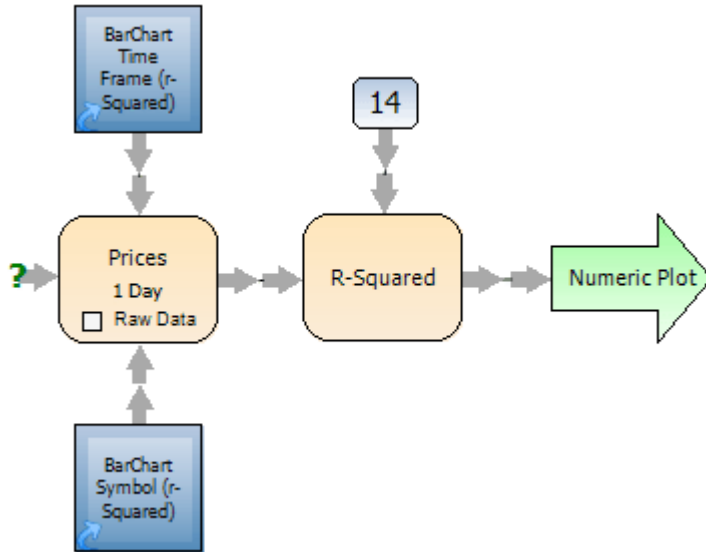
The R-Squared block is used to calculate the R-Squared indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the R-Squared Personal Chartist Study.



The r-Squared 14 plot uses the R-Squared block to plot the indicator.



Block diagram for the r-Squared 14 plot in the chart above.

Source Code

```

<WBIGuid("0035eeb6-c268-4002-9952-043644635ed8"),FriendlyName("R-Squared"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the R-Squared indicator for the period provided.",
"10/18/2006")> _
Public Class R_Squared
inherits BaseTemplateDLStoDLSPeriod
'Version 1.02
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
'
' Worden Brothers, Inc.. believes the information
' within this code block to be correct but does not
' guarantee its accuracy.
'
' You are licensed to use this source code for your own private use.
' It may not be re-distributed or sold without express permission
' from Worden Brothers, Inc..
'
' THIS CODE AND INFORMATION ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY
' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "R-Squared."
'
' Changes
' 1.02 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim sumValues As Single
Dim sumSardPeriods As Integer

```

```

Dim SumSqrValues As Single
Dim sumPeriodsSqr As Integer
Dim sumPeriods As Integer
Dim periodNumber As Integer
Dim sumPeriodValue As Single
Dim Period As Single
Dim Divisor As Single

Period = Me.CodeBlock.ParameterValue

If Period < 2 Then Period = 2
If Period > inputcount - 2 Then Period = inputcount - 2

'count up the values for first period calc
For i As Integer = 0 To Period - 2
    sumValues += Me.CodeBlock.InputValue(i)
    sumSqrValues += Me.CodeBlock.InputValue(i)^2
Next

'count up sum of periods and sum of squared periods
For i As Integer = 1 To Period
    sumperiods += i
    sumSqrPeriods += i^2
Next

sumPeriodsSqr = sumPeriods^2

For i As Integer = Period - 1 To Me.CodeBlock.InputCount - 1
    'add values for this period to running tallies
    sumValues += Me.CodeBlock.InputValue(i)
    sumSqrValues += Me.CodeBlock.InputValue(i)^2

    periodNumber = 0
    sumPeriodValue = 0
    'Loop through values in the period
    For y As Integer = (i - (Me.CodeBlock.ParameterValue - 1)) To i

        periodNumber += 1

        sumPeriodValue += periodNumber * Me.CodeBlock.InputValue(y)

    Next

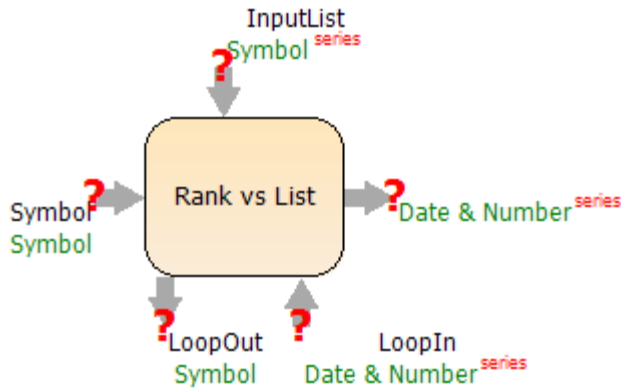
    Divisor = (sumSqrPeriods - (sumPeriods^2/Period)) * (sumSqrValues - (sumValues^2/Period))
    If divisor = 0 Then divisor = 1

    Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), _
        ((sumPeriodValue - ((sumPeriods*sumValues)/Period))^2)/divisor)

    'Lob off unneeded values from tallies
    sumValues -= Me.CodeBlock.InputValue(i -(Period-1))
    sumSqrValues -= Me.CodeBlock.InputValue(i -(Period-1))^2
Next
End Sub
End Class

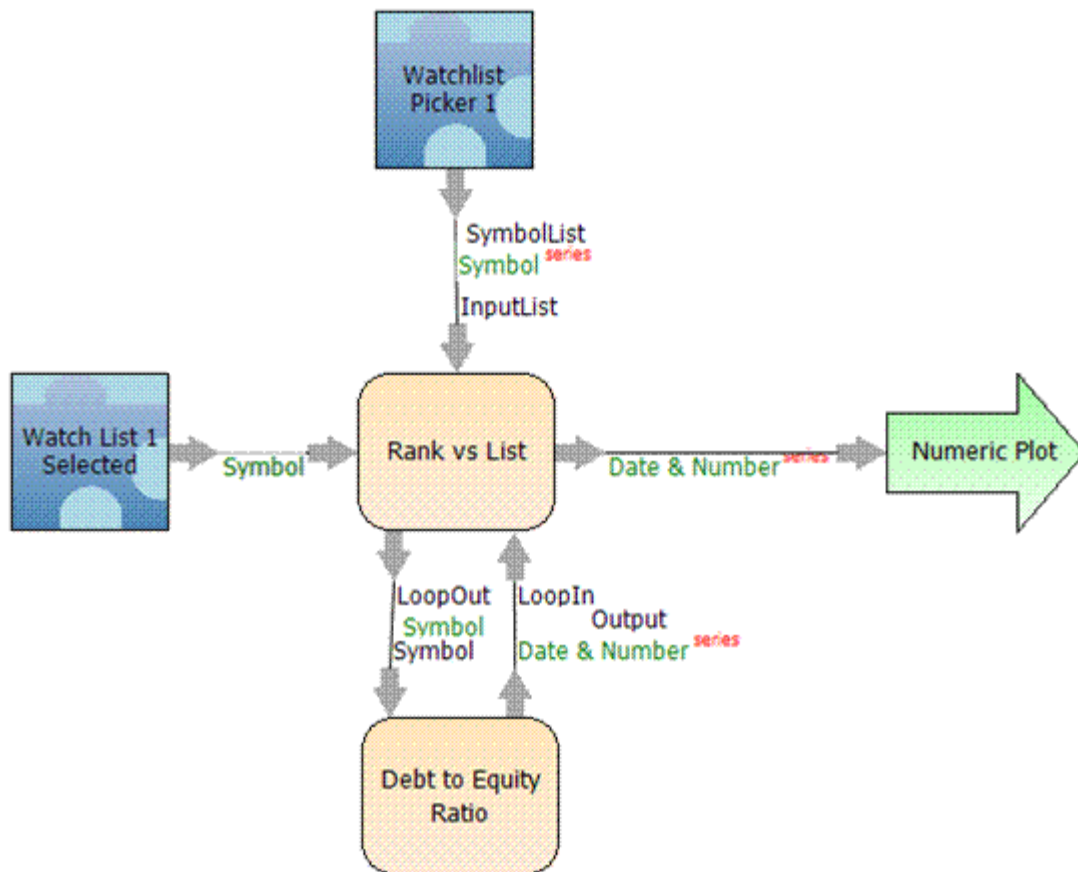
```

Rank vs List



Description

Returns the percentile rank for the symbol provided as compared to the WatchList provided for the criteria in the LoopIn/LoopOut circuit. For instance, if you wanted to compare the Debt to Equity Ratio of the supplied symbol to the Debt to Equity Ratios of the symbols in a WatchList, you would connect the Debt to Equity Ratio block to the LoopIn and LoopOut connectors, the symbol to compare to the Symbol connector, and the WatchList to compare to the InputList connector (see block diagram below). The Rank vs List block then calculates the Debt to Equity Ratio for each symbol in the WatchList provided. It then puts them in order from the worst Debt to Equity Ratio as 0% to the best Debt to Equity Ratio as 100%. Then it compares the Debt to Equity Ratio for the symbol provided to the WatchList Symbols' ratios and returns the symbol's debt to Equity ratio rank as a percentage.



The above example draws a line that is the percentile rank of the Debt to Equity Ratio for the selected

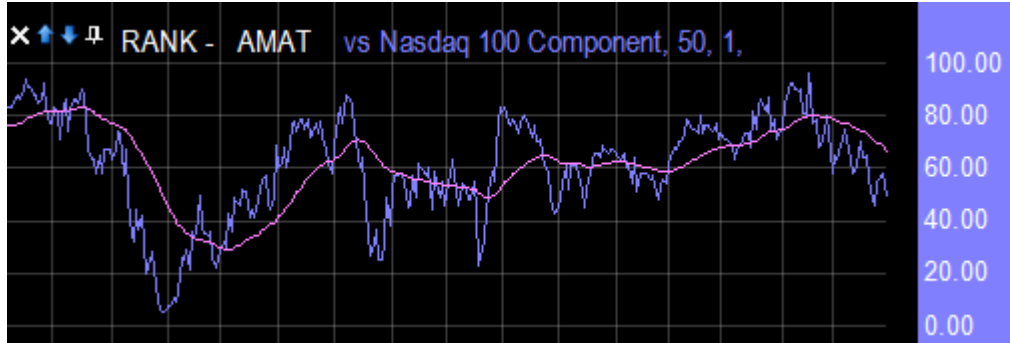
Watchlist Symbol as compared to the WatchList Picker SymbolList.

Uses:

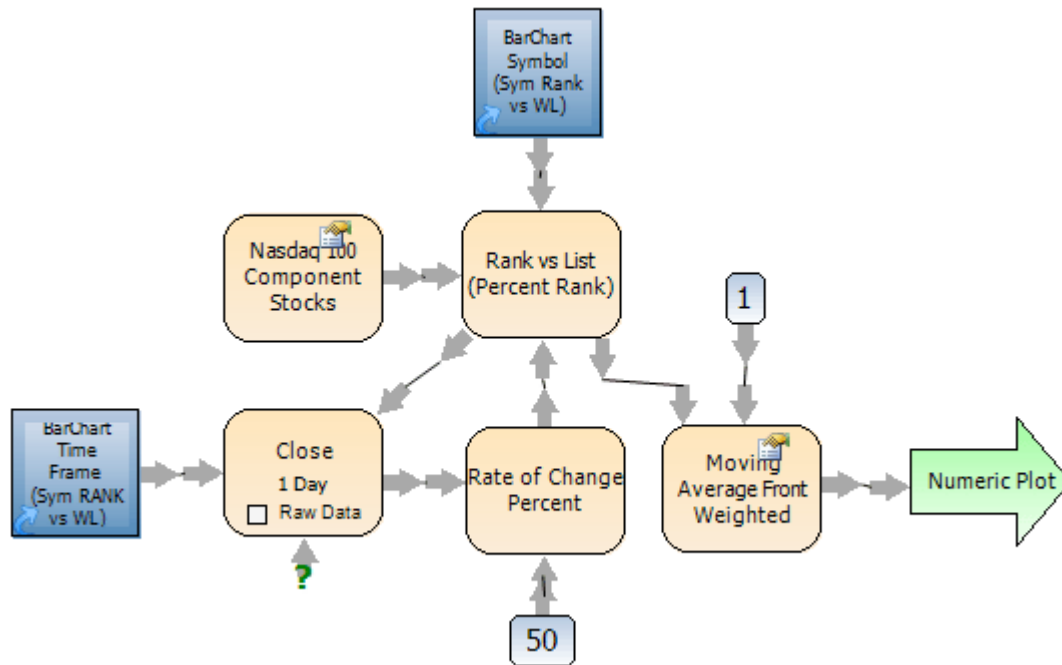
The Rank vs List block is used anytime you want to compare one symbol to a watchlist. Uses include strategies, studies, column data, data displays and legend displays.

Example 1:

The example below is the Symbol RANK vs WatchList Personal Chartist study. It uses the Rank vs WatchList block to compare the incoming symbol percentage rate of change to the percentage rates of change of the symbols in the selected Watchlist.



The vs Nasdaq 100 Component, 50, 1 plot in the chart above uses the Rank vs List block to compare the symbols percentage rate of change to the percentage rates of change for the symbols in the Nasdaq 100 Component Stocks WatchList. It does this comparison for each point on the line.

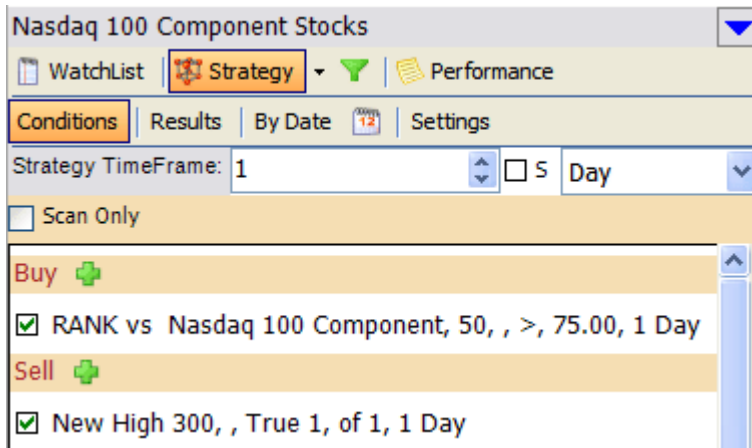


Block diagram for the vs Nasdaq 100 Component, 50, 1 plot above.

Example 2:

The following example is the Symbol RANK vs Watchlist Strategy from Personal Chartist. It uses the Rank vs List block to compare the percentage rate of change of the symbol being tested to the percentage rates of change of the symbols in the Nasdaq 100 Component Stocks. When the symbol's percentage rate of change is ranked in the top 75% a buy marker is placed. A Sell marker is then placed when the symbol

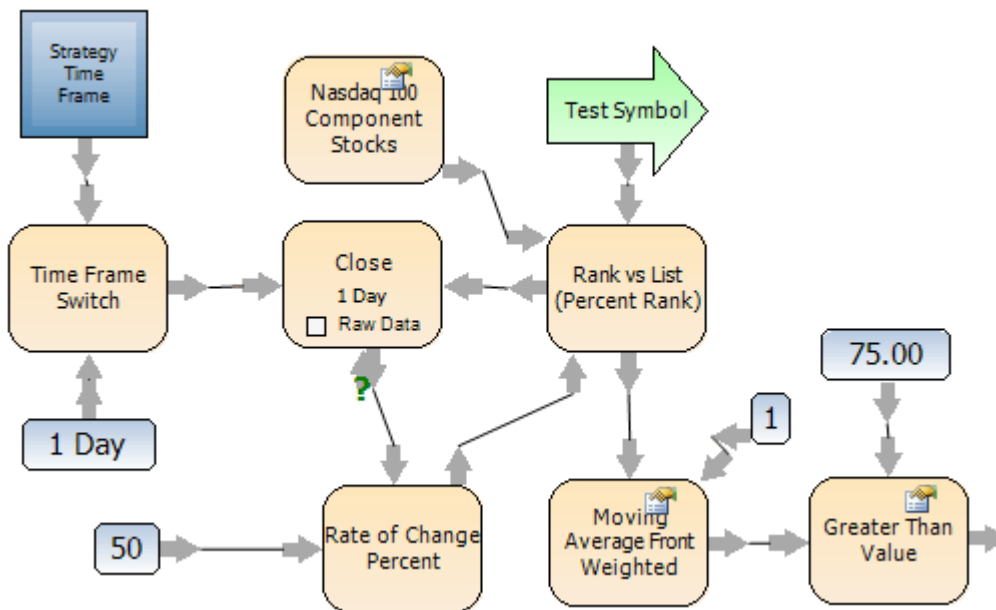
reaches a new 300 day high.

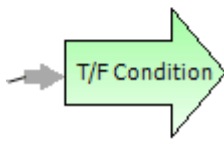


The Rank vs List block is used to construct the Symbol RANK vs WatchList strategy in Personal Chartist.



Buy markers are placed on the chart when the symbol's percentage rate of change is in the top 75% as compared to the percentage rates of change of the Nasdaq 100 Component Stocks.





Block diagram for the RANK vs Nasdaq 100 Component strategy above.

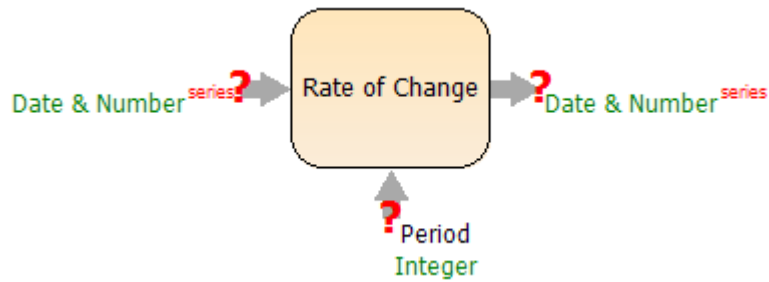
Example 3:

The following example displays the percentile rank of each row's symbol's percentage rate of change as compared to the percentage rates of change of all the symbols in the WatchList. The most current value is displayed in the Rank vs List column.

Watch List		
Nasdaq 100 Component Stocks		
WatchList	Strategy	Performance
Main List	Ind	Sub
Symbol	Company Name	Rank vs List
WYNN	Wynn Resorts Ltd	99.00
ISRG	Intuitive Surgical Inc	98.00
GRMN	Garmin Ltd	97.00
JNPR	Juniper Networks	96.00
VRTX	Vertex Pharmaceuticals	95.00
RIMM	Research In Motion Ltd	94.00
AMZN	Amazon.Com Inc	93.00
BIIB	Biogen Idec Inc	92.00
XMSR	Xm Satellite Radio Hldgs	91.00
CELG	Celgene Corp	90.00
EBAY	Ebay Inc	89.00
AMLN	Amylin Pharmaceuticals	88.00
WFMI	Whole Foods Market Inc	87.00
CKFR	Checkfree Corporation	86.00
CTXS	Citrix Systems Inc	85.00
BRCM	Broadcom Corp Cl A	84.00
CSCO	Cisco Systems Inc	83.00
NVDA	NVIDIA Corporation	82.00
DISCA	Discovery Holding Co Clas	81.00

The Rank vs List column shows the most current ranking of the stock in each row.

Rate of Change



Description

Returns the Rate of Change for period and line provided. Rate of change compares the current date's value with the value n-periods ago. The difference can be expressed as a Net or % change. It can be a good indicator of momentum.

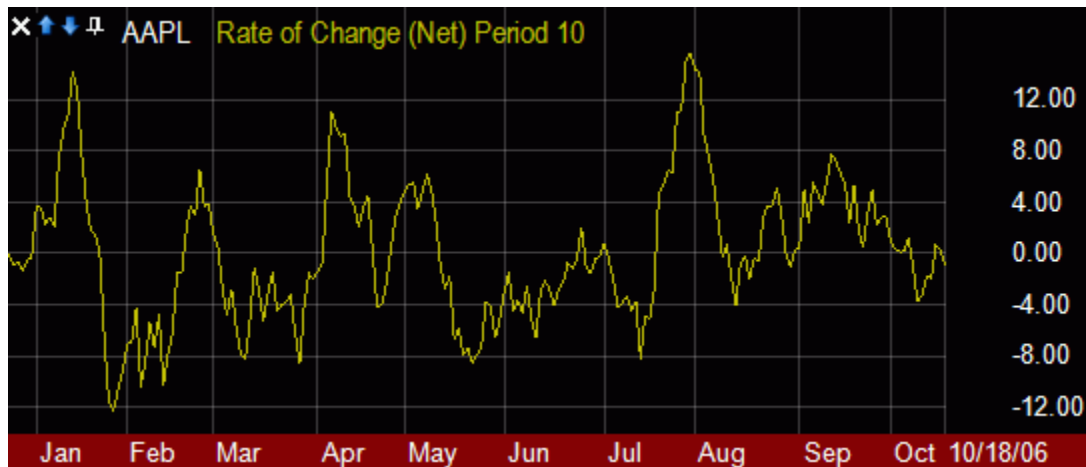
See also [Rate-of-Change \(Net and %\)](#).

Uses:

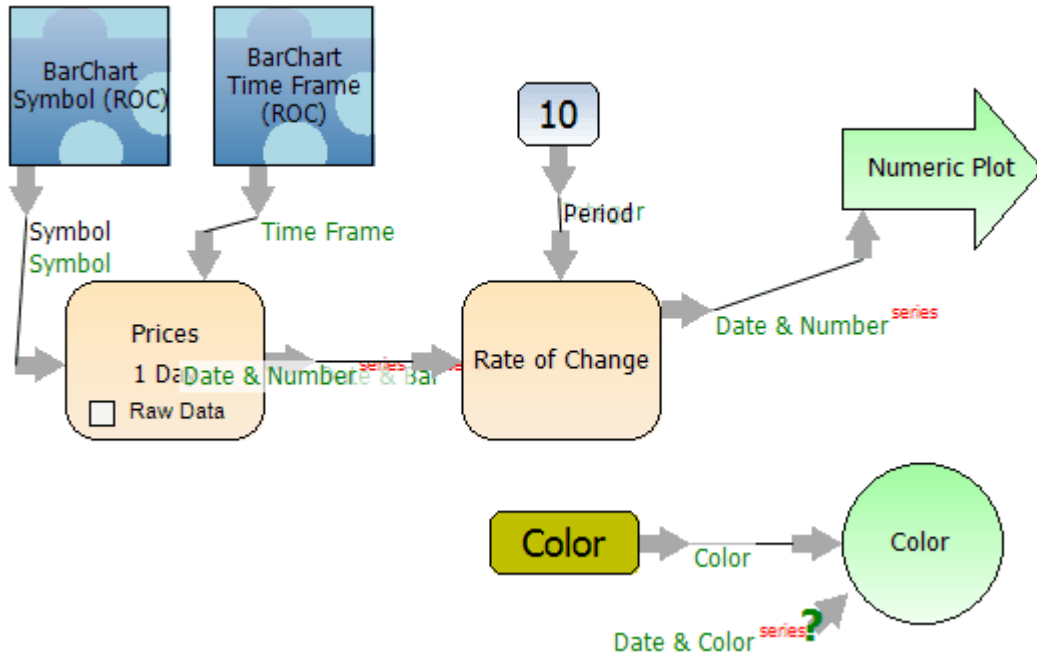
The Rate of Change block is used anytime you want to display the rate of change for a symbol either as a line or as a single value. Uses include studies and strategies, and single values in labels, legends and data displays.

Example:

The following example plots the rate of change for AAPL on a chart.

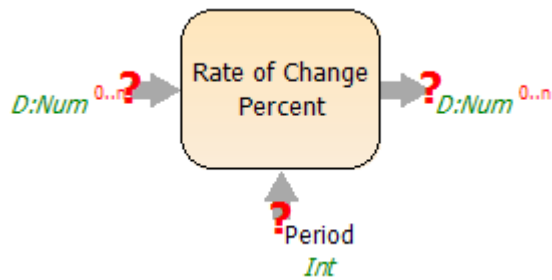


The Rate of Change (Net) Period 10 plot above uses the Rate of Change block to plot the indicator.



Block diagram for the Rate of Change (Net) Period 10 plot in the chart above.

Rate of Change Percent



Description

Returns the Rate of Change as a percentage for the period and line provided. Rate of change compares the current date's value with the value n-periods ago. The difference can be expressed as a Net or % change. It can be a good indicator of momentum.

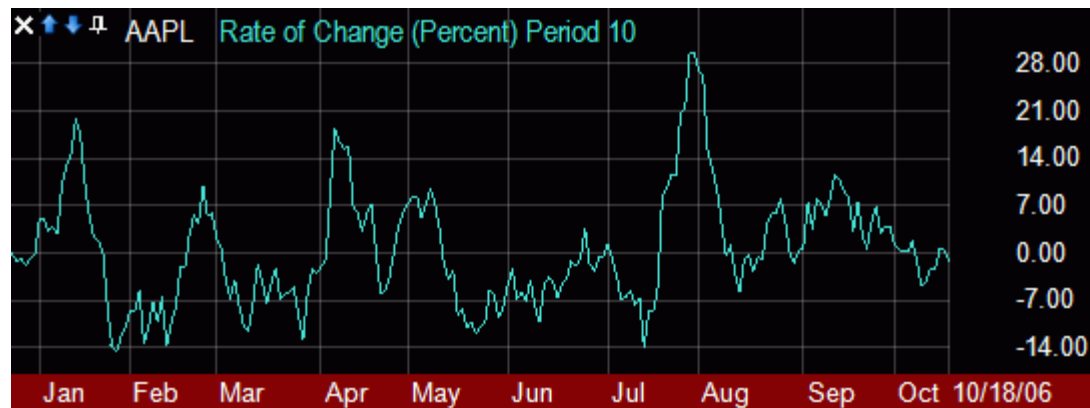
See also [Rate-of-Change \(Net and %\)](#).

Uses:

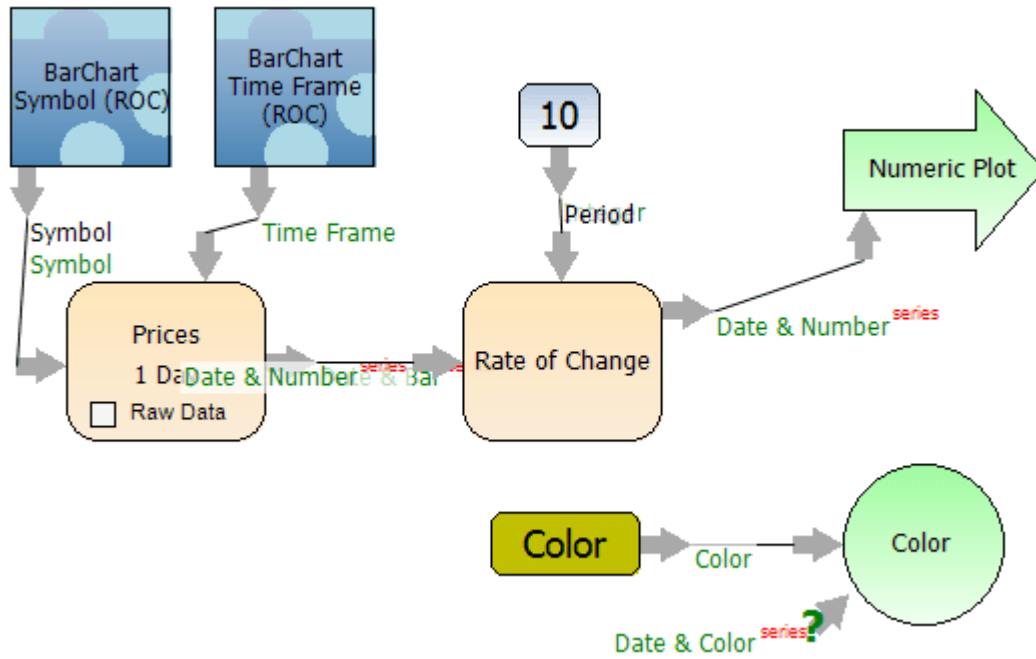
The Rate of Change block is used anytime you want to display the rate of change for a symbol either as a line or as a single value. Uses include studies and strategies, and single values in labels, legends and data displays.

Example:

The following example plots the percent rate of change for AAPL on a chart.

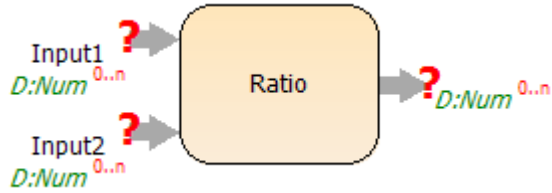


The Rate of Change (Percent) Period 10 plot above uses the Rate of Change Percent block to plot the indicator.



Block diagram for the Rate of Change (Percent) Period 10 plot in the chart above.

Ratio



Description

Divides Input1 by Input2.

Uses:

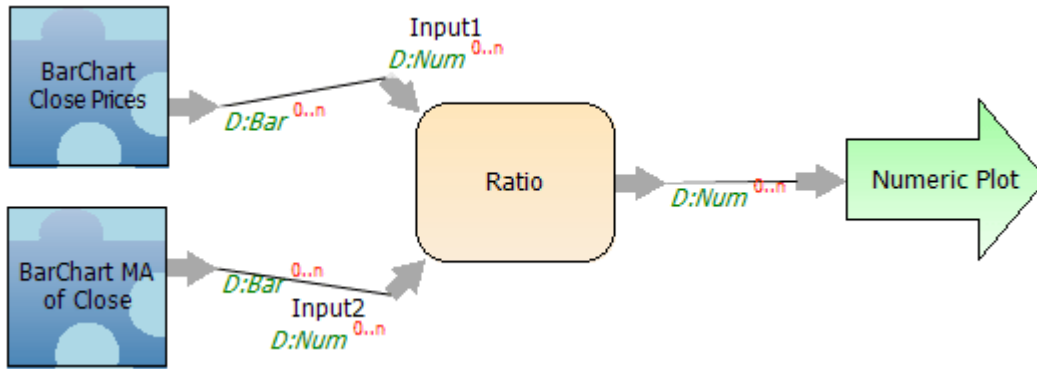
The Ratio block is used anytime you want to divide the values in one Date & Number Series by another. Uses include calculating studies and strategies.

Example:

The following example uses the Ratio block to show the ratio between the Close prices and the moving average of Close prices.



The Close to MA Ratio plot above plots the ratio between the Close prices and the moving average of Close prices.

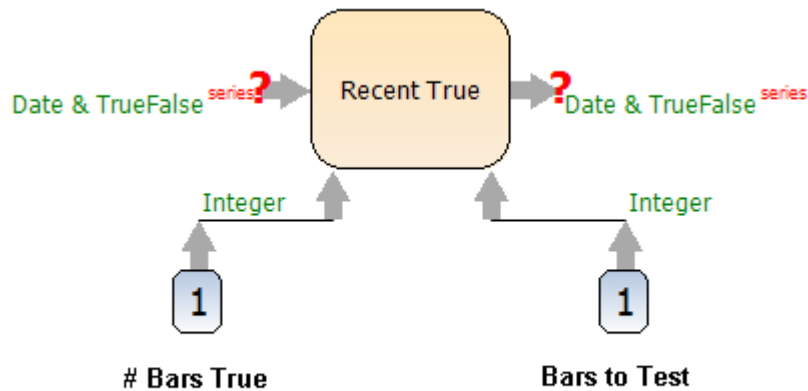


Block diagram for the Close to MA Ratio plot in the chart above.

Recent True

Description:

Returns the number of bars true in recent bars as specified by the # Bars True and Bars to Test inputs.



Bars True and **Bars to Test** work together to add flexibility to any scan condition.

Each BackScanner condition in the web library has two parameters, **# Bars True** and **Bars to Test**, which work together to add flexibility to the condition.

When you combine several conditions, you reduce the chance of all returning True for the same bar of data. And you may not care if all conditions are True on the same bar, just that they happen in close together. By increasing the **Bars to Test** parameter you allow a larger window for the condition to return True.

Scenario 1:

Bars True = 1
Bars to Test = 1

The condition must be true on the bar being evaluated for the symbol to pass.

Scenario 2:

Bars True = 1
Bars to Test = 5

The condition can be true for any of the most recent 5 bars for the symbol to pass.

Scenario 3:

By increasing the **# Bars True** parameter, you still have flexibility but can be more demanding at the same time.

Bars True = 3
Bars to Test = 10

The condition must be true for at least 3 of the most recent 10 bars for the symbol to pass.

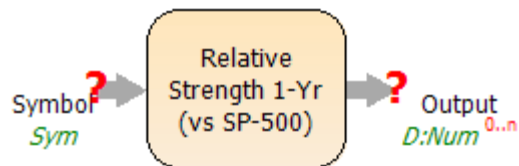
Scenario 4:

Bars True = 3

Bars to Test = 3

The condition must be true for EACH of the last 3 bars symbol to pass. If you were scanning for price closing lower three bars in a row, you could use the Price Percent Change condition, set it to less than 0%, and set the # Bars True and Bars to Test to 3. If price closed lower than the previous bar 3 times in a row, an entry (or exit) condition would be triggered.

Relative Strength 1-Yr (vs SP-500)



Description

Returns the 1-Year Relative Strength of the Symbol provided versus the S & P 500.

Definition

The relative change in price of a stock over the past year compared to the change in the SP-500 over the same time. The calculation is : (Latest Close Price of Stock/ Latest Close Price of SP-500) / (Close Price of Stock 1 year ago / Close Price of SP-500 1 year ago) * 100.

Uses:

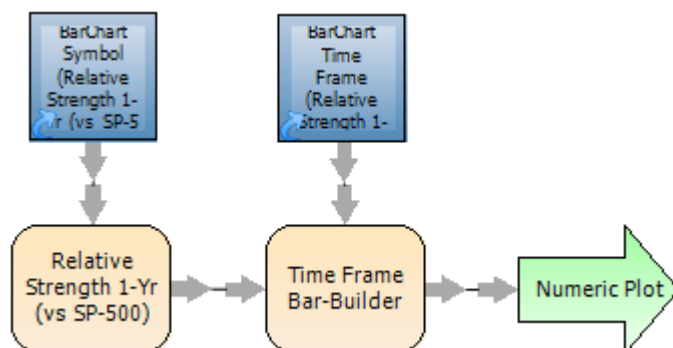
The Relative Strength 1-Yr (vs SP-500) block is used anytime you want to display the relative strength of a symbol as compared to the S & P 500 either as a line or as a single value. Uses include studies and strategies, and single values in labels, legends and data displays.

Example:

The following example is the Relative Strength 1-Yr (vs SP-500) study from Personal Chartist.

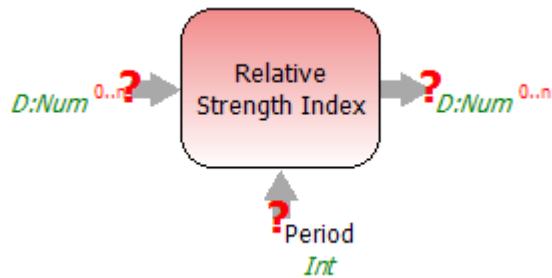


The Relative Strength 1-Yr (vs SP-500) plot above uses the Relative Strength 1-Yr (vs SP-500) block to plot the indicator.



Block diagram for the Relative Strength 1-Yr (vs SP-500) plot in the chart above.

Relative Strength Index



Description

Returns the Relative Strength Index for the incoming line for the Period provided.

Relative Strength Index Description

The Relative Strength Index (RSI) is a rate of change oscillator developed by J. Welles Wilder, Jr. RSI is calculated purely from the price of the individual stock or market average. Please DO NOT confuse RSI with the more conventional Relative Strength analysis or RS Ran. RSI essentially compares the price of something to itself. It does NOT compare the relative performance of one stock or market average to that of another. The RSI indicator is most effective when used to spot positive and negative divergences with price. It is also used to determine when a stock or index has reached an overbought or oversold condition within the confines of its primary trend.

When RSI registers a reading of 70% or higher, price is generally in an overbought position. Conversely, when RSI reaches the 30% level, price can be considered oversold. When using RSI as an overbought/oversold indicator, it is extremely important to first determine whether a definable primary trend actually exists. This is best determined by using other technical indicators such as price moving averages, Trendlines, and our own Time Segmented Volume (TSV). Once the direction of a primary trend has been successfully identified, use RSI to trade strictly with the trend. For example, if a stock is in a definable uptrend, use RSI to identify optimum entry points. A spike down in RSI (below 30%) would signal just such an entry point. RSI is also capable of positive and negative divergences with price. Wilder suggests using a 14-day RSI although other settings have also proved useful.

How it's calculated....

$$RSI = 100 - (100/(1+RS))$$

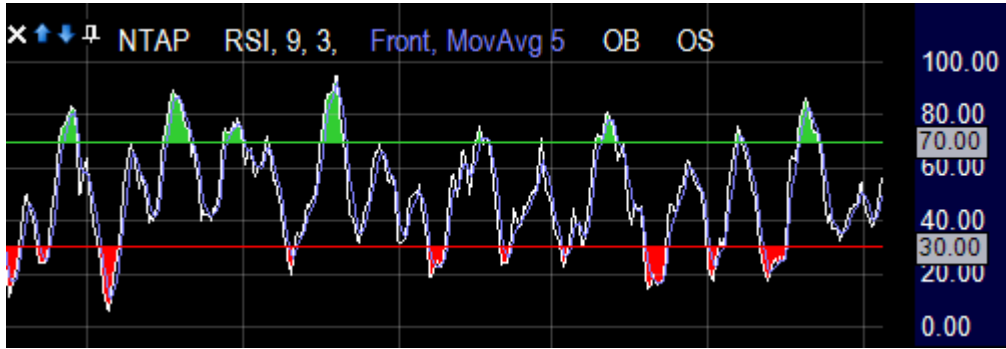
Where RS is the ratio of the exponential moving average of n-period gains (value of up closes) divided by the absolute value of the exponential moving average of n-period losses (value of down closes). Wilder suggests using a period of 14 for n.

Uses:

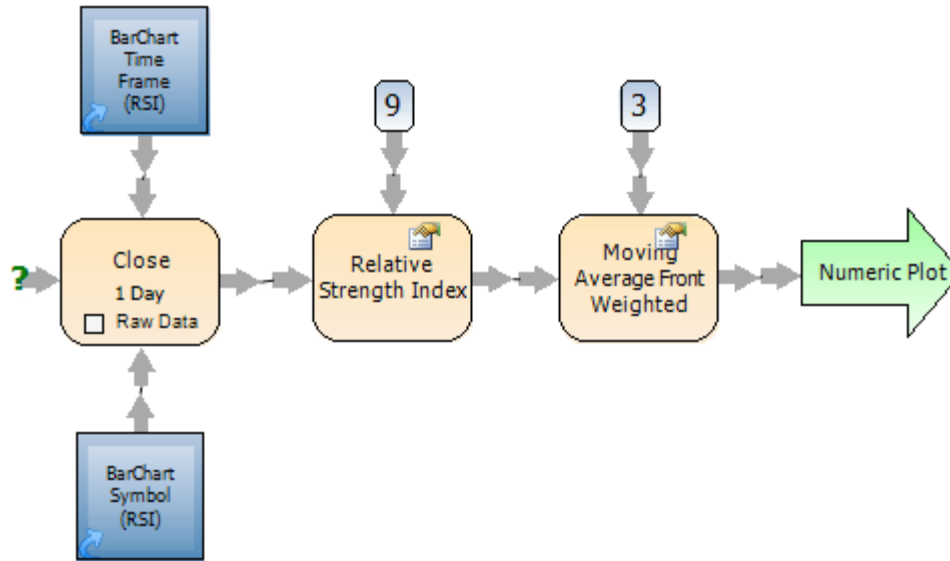
The Relative Strength Index block is used to calculate the Relative Strength Index indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Relative Strength Index Personal Chartist Study.

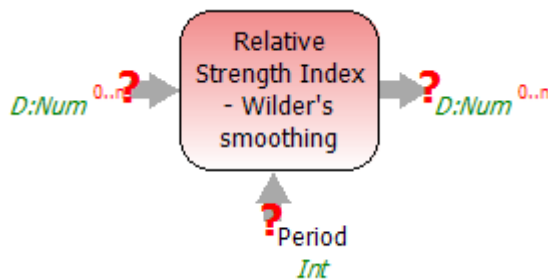


The RSI, 9, 3, plot uses the Relative Strength Index block to plot the indicator.



Block diagram for the RSI, 9, 3, plot in the chart above.

Relative Strength Index - Wilder's Smoothing



Description

Plots a smoothed Relative Strength Index using Wilder's Smoothing of the incoming line for the Period provided.

See also the [Relative Strength Index \(RSI\)](#) indicator.

Relative Strength Index Description

The Relative Strength Index (RSI) is a rate of change oscillator developed by J. Welles Wilder, Jr. RSI is calculated purely from the price of the individual stock or market average. Please DO NOT confuse RSI with the more conventional Relative Strength analysis or RS Ran. RSI essentially compares the price of something to itself. It does NOT compare the relative performance of one stock or market average to that of another. The RSI indicator is most effective when used to spot positive and negative divergences with price. It is also used to determine when a stock or index has reached an overbought or oversold condition within the confines of its primary trend.

When RSI registers a reading of 70% or higher, price is generally in an overbought position. Conversely, when RSI reaches the 30% level, price can be considered oversold. When using RSI as an overbought/oversold indicator, it is extremely important to first determine whether a definable primary trend actually exists. This is best determined by using other technical indicators such as price moving averages, Trendlines, and our own Time Segmented Volume (TSV). Once the direction of a primary trend has been successfully identified, use RSI to trade strictly with the trend. For example, if a stock is in a definable uptrend, use RSI to identify optimum entry points. A spike down in RSI (below 30%) would signal just such an entry point. RSI is also capable of positive and negative divergences with price. Wilder suggests using a 14-day RSI although other settings have also proved useful.

How it's calculated....

$$RSI = 100 - (100/(1+RS))$$

Where RS is the ratio of the exponential moving average of n-period gains (value of up closes) divided by the absolute value of the exponential moving average of n-period losses (value of down closes). Wilder suggests using a period of 14 for n.

Uses:

The Relative Strength Index - Wilder's Smoothing block is used to calculate the a Wilder's smoothed Relative Strength Index indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

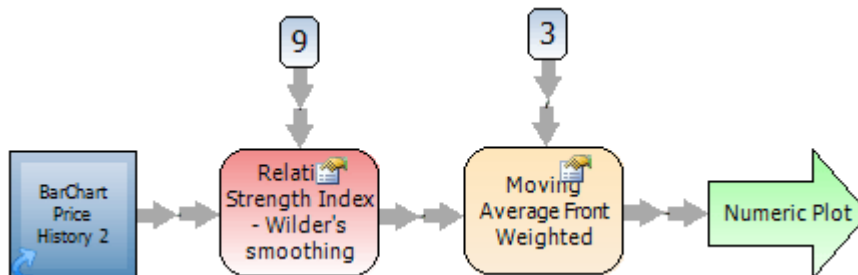
The following example is the Relative Strength Index Personal Chartist Study. The default Relative Strength Index has been changed in QuickEdit to use Wilder's Smoothing.



In the QuickEdit for the RSI plot, the default Relative Strength Index is changed to use the Wilder's smoothed version of the Relative Strength Index.

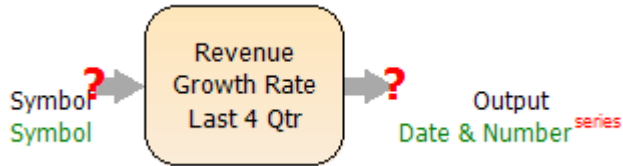


The RSI-Wilder's, 9, 3, plot uses the Relative Strength Index - Wilder's Smoothing block to plot the indicator.



Block diagram for the RSI-Wilder's, 9, 3, plot in the chart above.

Revenue Growth Rate Last 4 Qtr



Definition

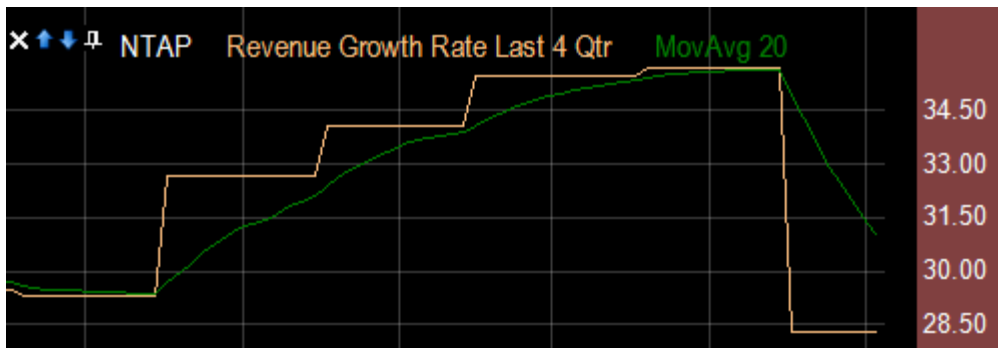
The difference between the latest fiscal year revenue and the previous fiscal year revenue, expressed as a percentage.

Uses:

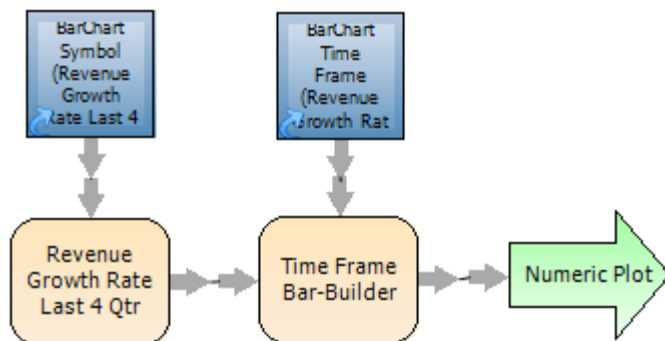
The Revenue Growth Rate Last 4 Qtr block is used to calculate the revenue growth rate for the last 4 quarters for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Revenue Growth Rate Last 4 Qtr Personal Chartist Study.

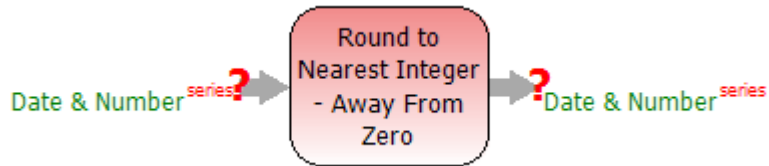


The Revenue Growth Rate Last 4 Qtr plot uses the Momentum block to plot the indicator.



Block diagram for the Revenue Growth Rate Last 4 Qtr plot in the chart above

Round to Nearest Integer - Away From Zero



Description

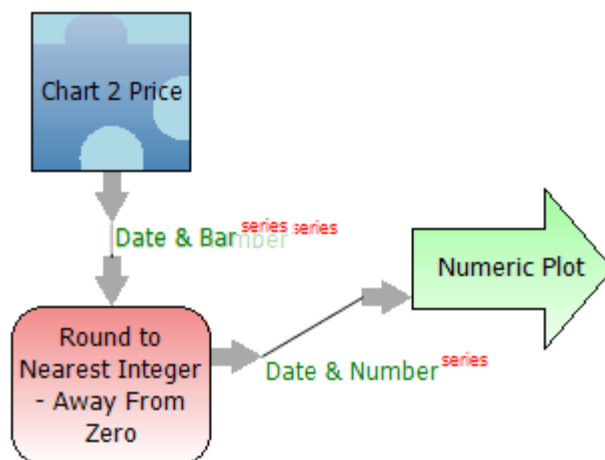
Provides the rounded value of the input using the .NET `MidPointRounding.AwayFromZero` method.

See also the [Round to Nearest Integer - To Even](#) block.

MidPointRound Enumerations

Original number	AwayFromZero	ToEven
3.5	4	4
2.8	3	3
2.5	3	2
2.1	2	2
-2.1	-2	-2
-2.5	-3	-2
-2.8	-3	-3
-3.5	-4	-4

The table above illustrates the difference between the two different enumerations of the `MidPointRounding` method.



The example above plots Prices rounded to the nearest integer using the .Net `MidPointRounding.AwayFromZero` method.

Source Code

```
<WBIguid("c8a1b474-b2e4-4d8e-a85d-85cf29ed381e"),FriendlyName("Round to Nearest Integer - Away
From Zero"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the rounded value of the input using the
MidPointRounding.AwayFromZero method.", "10/18/2006")> _
Public Class Round_to_Nearest_Integer_Away_From_Zero
inherits BaseTemplateDLStoDLS
'Version 1.0
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
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' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Round to Nearest Integer - Away From Zero."
'-----
Dim rounding As System.MidpointRounding
For I As Integer = 0 To inputcount -1
addtooutput(inputdate(i), system.Math.Round(inputvalue(i), rounding.AwayFromZero))
Next
End Sub
End Class
```

Round to Nearest Integer - To Even



Description

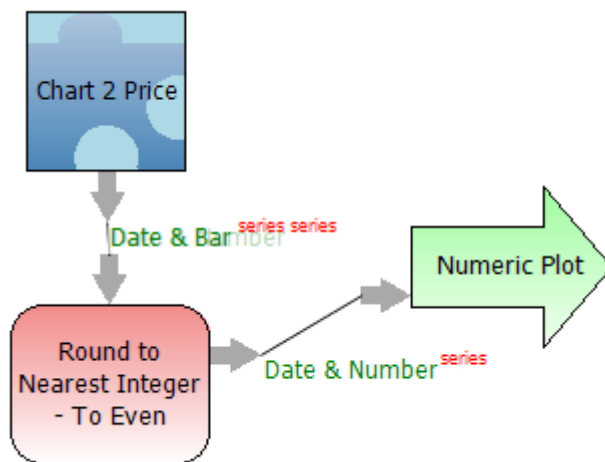
Provides the rounded values of the input values using the `MidPointRounding.ToEven` method.

See also the Round to [Nearest Integer - Away From Zero](#) block.

MidPointRound Enumerations

Original number	AwayFromZero	ToEven
3.5	4	4
2.8	3	3
2.5	3	2
2.1	2	2
-2.1	-2	-2
-2.5	-3	-2
-2.8	-3	-3
-3.5	-4	-4

The table above illustrates the difference between the two different enumerations of the `MidPointRounding` method.



The example above plots Prices rounded to the nearest integer using the `.Net MidPointRounding.ToEven` method.

Source Code

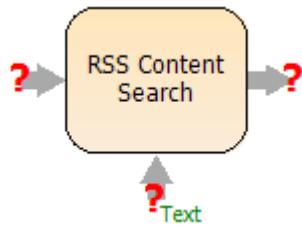
```

<WBIGuid("bbc978d2-e260-4fc3-9249-74309711389b"),FriendlyName("Round to Nearest Integer - To
Even"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the rounded values of the input values using the
MidPointRounding.ToEven method. ", "10/18/2006")> _
Public Class Round_to_Nearest_Integer_To_Even
Inherits BaseTemplateDLStoDLS
'Version 1.0
Public Overrides Sub calculate()
'-----
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'
' For the source code and more information on this block go to
' kb.worden.com And search for "Round to Nearest Integer - To Even."
'-----

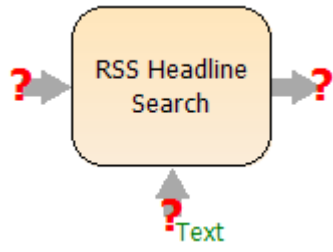
Dim rounding As System.MidpointRounding
For I As Integer = 0 To inputcount -1
    addtooutput(inputdate(i), system.Math.Round(inputvalue(i), rounding.ToEven))
Next
End Sub
End Class

```

RSS Content Search



RSS Headline Search



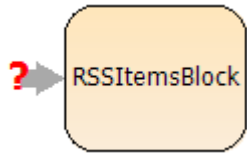
RSS Item



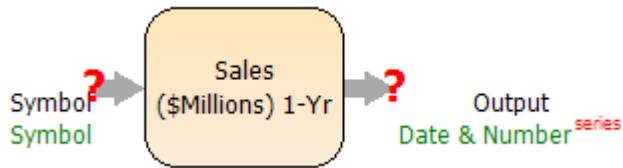
RSSItem to URL



RSSItemsBlock



Sales (\$Millions) 1-Yr



Description

Returns the 1-year sales in Millions of Dollars.

Definition

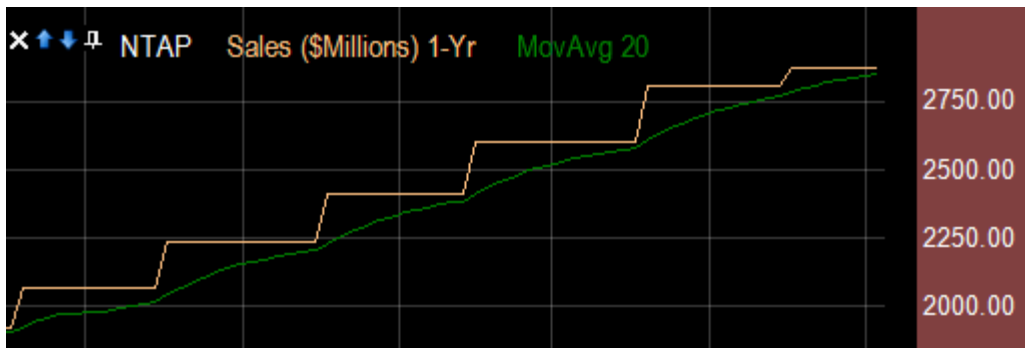
This is the sum of revenues for the last 4 quarterly reports. This is an excellent gauge of company size.

Uses:

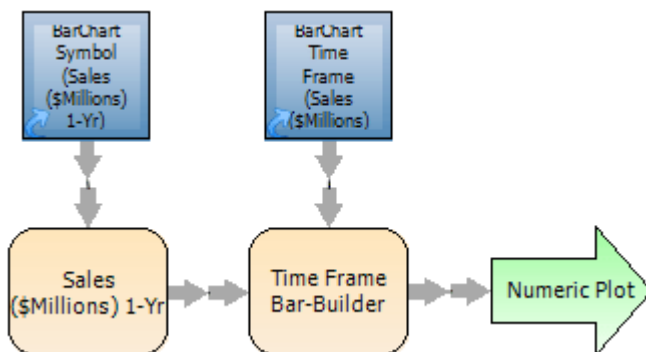
The Sales (\$Millions) 1-Yr block is used to calculate the the one year sales in millions of dollars for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Sales (\$Millions) 1-Yr Personal Chartist Study.



The Sales (\$Millions) 1-Yr plot uses the Sales (\$Millions) 1-Yr block to plot the indicator.



Block diagram for the Sales (\$Millions) 1-Yr plot in the chart above.

Sales Growth Rate 5-Yr



Description

Returns the 5-year growth rate for the Symbol Provided.

Definition

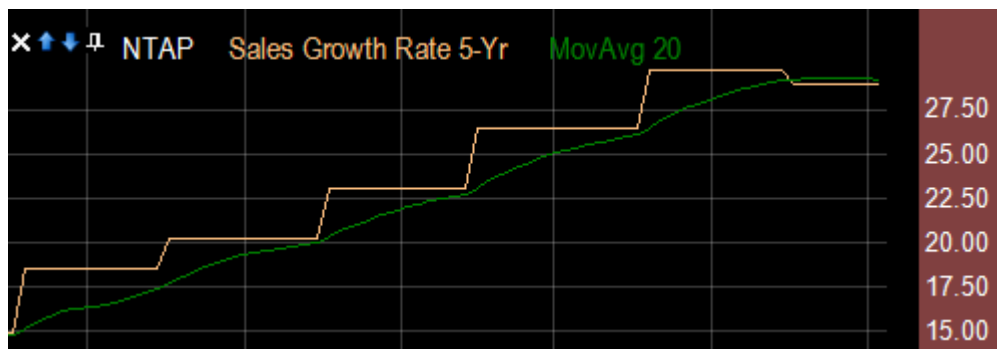
This is the compound annual revenue per share growth over the last 5 years. This is an indication of growing market share. Never forget, it takes revenue to produce earnings.

Uses:

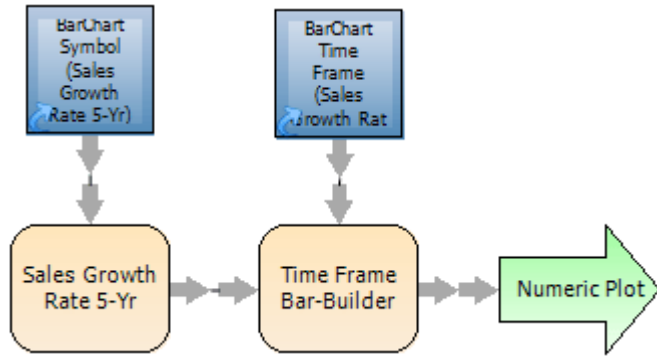
The Sales Growth Rate 5-Yr block is used to calculate the five year sales growth rate for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Sales Growth Rate 5-Yr Personal Chartist Study.



The Sales Growth Rate 5-Yr plot uses the Sales Growth Rate 5-Yr block to plot the indicator.



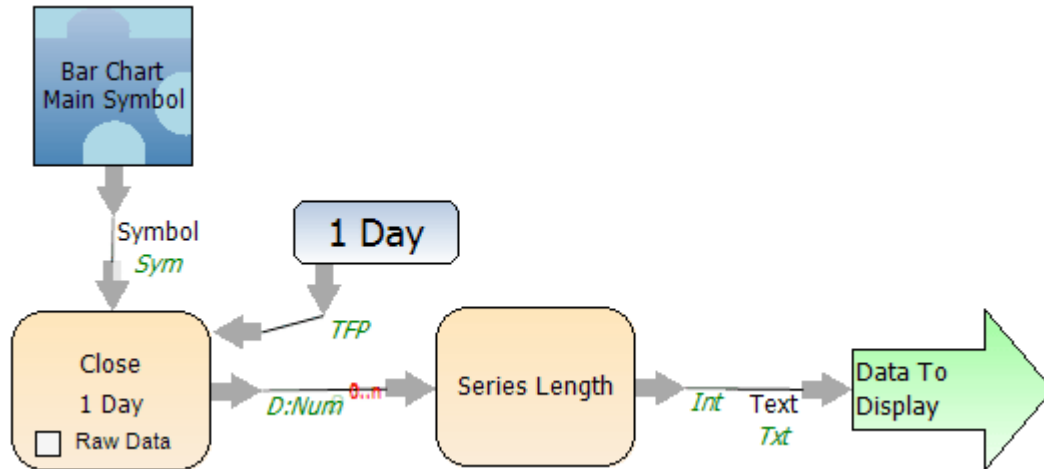
Block diagram for the Sales Growth Rate 5-Yr plot in the chart above.

Series Length



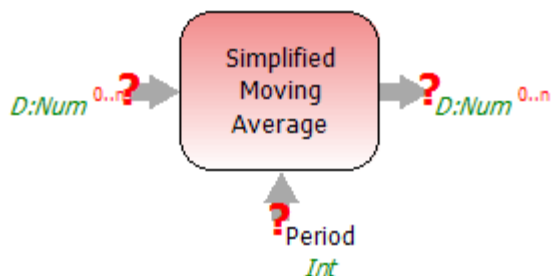
Description

Returns the count of the number of points in a data series.



The example above displays the number of daily Close Price points that exist for the Symbol provided by the Bar Chart Main Symbol.

Simplified Moving Average

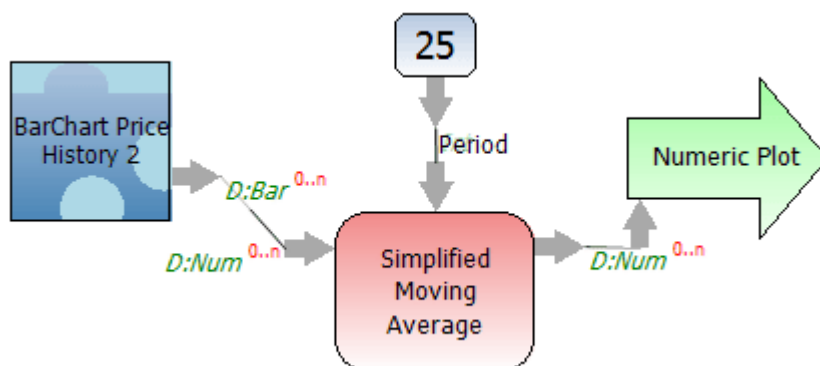


Description

Provides the Simplified Moving Average indicator for the period provided.

This simplified version of a Simple Moving Average came about as a shortcut way of approximating a Simple Moving average. It takes a portion of the previous day's average and adds it to today's value divided by the period. This method saved a lot of time back in the days when hand calculation was the norm and is used in indicators such as Average True Range.

See also the [Average True Range](#) indicator and the [Simplified Moving Average - Internally Rounded](#) block.



The example above plots a 25-period Simplified Moving Average of the Prices provided.

Source Code

```
<WBIGuid("c16e3221-cb75-44bd-aed1-fa3d06541605"),FriendlyName("Simplified Moving Average"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Simplified Moving Average indicator for the
period provided.", "10/18/2006")> _
Public Class Simplified_Moving_Average
Inherits BaseTemplateDLStoDLSPeriod
'version 1.01
Public Overrides Sub calculate()
'-----
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A  
' PARTICULAR PURPOSE.  
,
```

```
' For the source code and more information on this block go to  
' kb.worden.com And search for "Simplified Moving Average."  
,
```

```
' Changes
```

```
' 1.01 - Added If inputcount < 2 Then Exit Sub  
-----
```

```
If inputcount < 2 Then Exit Sub
```

```
Dim Period As Integer = Me.CodeBlock.ParameterValue
```

```
Dim value As Single
```

```
Dim rounding As System.MidpointRounding
```

```
If Period < 1 Then Period = 1
```

```
If Period > inputcount -2 Then Period = inputcount -2
```

```
'get first period value
```

```
value = 0
```

```
For i As Integer = 0 To Period - 1
```

```
value += inputvalue(i)
```

```
Next
```

```
value = value/Period
```

```
addtooutput(inputdate(Period - 1), value)
```

```
For i As Integer = Period To inputcount - 1
```

```
value = (value*(Period-1) + inputvalue(i))/Period
```

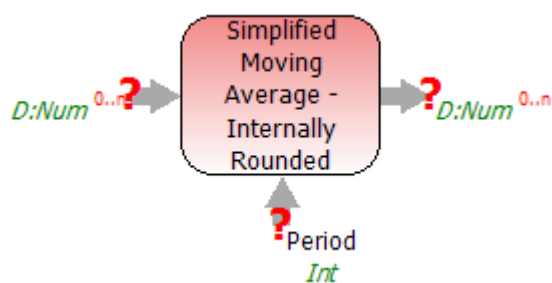
```
addtooutput(inputdate(i), value)
```

```
Next
```

```
End Sub
```

```
End Class
```

Simplified Moving Average - Internally Rounded



Description

Provides a rounded version of the Simplified Moving Average indicator. The `MidPointRound.AwayFromZero` method is used for the rounding (See table below).

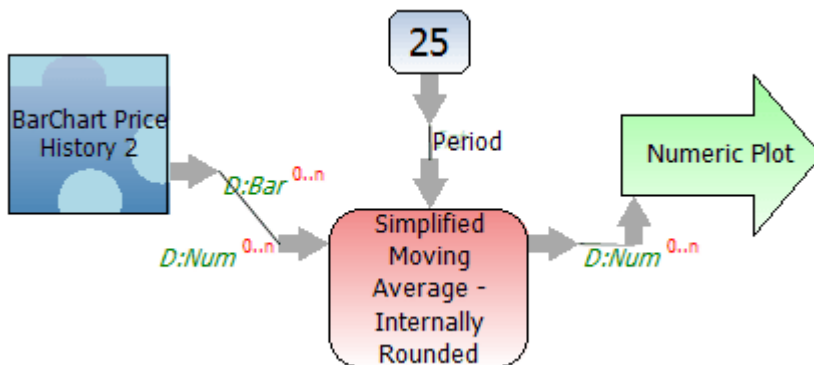
This simplified version of a Simple Moving Average came about as a shortcut way of approximating a Simple Moving average. It takes a portion of the previous day's average and adds it to today's value divided by the period. This method saved a lot of time back in the days when hand calculation was the norm and is used in indicators such as Average True Range.

See also the [Average True Range](#) indicator and the [Simplified Moving Average](#) block.

MidPointRound Enumerations

Original number	AwayFromZero	ToEven
3.5	4	4
2.8	3	3
2.5	3	2
2.1	2	2
-2.1	-2	-2
-2.5	-3	-2
-2.8	-3	-3
-3.5	-4	-4

The table above illustrates the differences between the two enumerations of the `MidPointRoundingMethod`.



The example above plots a 25-period Simplified Moving Average of the Prices provided. The Simplified Moving Average results are rounded using the `MidPointRounding.AwayFromZero` method.

Source Code

```
<WBIGuid("a221d042-0de2-450b-85af-09c6c2f84a37"),FriendlyName("Simplified Moving Average - Internally Rounded"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides a rounded version of the Simplified Moving Average indicator. The MidPointRound.AwayFromZero method is used for the rounding.", "10/18/2006")> _
Public Class Simplified_Moving_Average_Internally_Rounded
'Version 1.01
Inherits BaseTemplateDLStoDLSPeriod
Public Overrides Sub calculate()
```

```
'-----
' This file is part of the Blocks Code Library.
```

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' PARTICULAR PURPOSE.
```

```
' For the source code and more information on this block go to
' kb.worden.com And search for "Simplified Moving Average - Internally Rounded."
```

```
' Changes
```

```
' 1.01 - Added If inputcount < 2 Then Exit Sub
```

```
'-----
If inputcount < 2 Then Exit Sub
```

```
Dim Period As Integer = Me.CodeBlock.ParameterValue
Dim value As Single
Dim rounding As System.MidpointRounding
If Period < 1 Then Period = 1
If Period > inputcount -2 Then Period = inputcount -2
```

```
'get first period value
value = 0
For i As Integer = 0 To Period - 1
    value += inputvalue(i)
Next
value = system.Math.Round(value/Period, rounding.AwayFromZero)

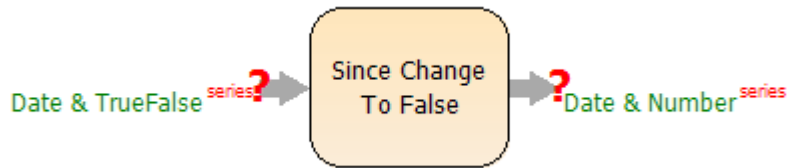
addtooutput(inputdate(Period - 1), value)

For i As Integer = Period To inputcount - 1
    value = system.Math.round((value*(Period-1) + inputvalue(i))/Period, rounding.AwayFromZero)

    addtooutput(inputdate(i), value)
Next

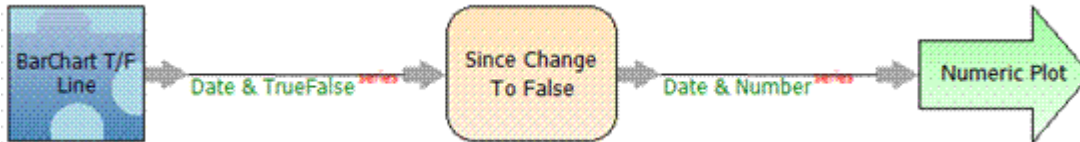
End Sub
End Class
```

Since Change To False



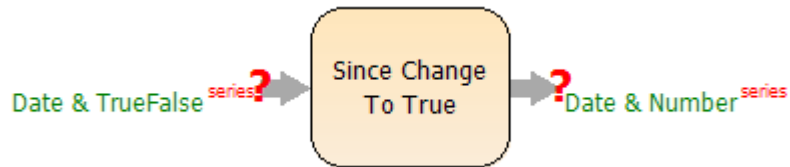
Description

Returns the number of points since change from True to False.



The example above draws a line that is the number of points that it has been since a change from True to False was encountered. For instance, if the the last change from True to False occurred 3 points ago from the current point, the current point would return 3.

Since Change To True



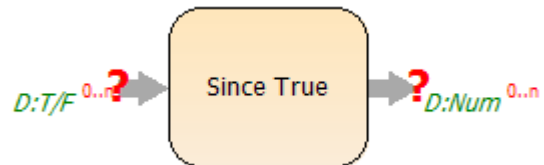
Description

Returns the number of points since change from False to True.



The example above draws a line that is the number of points that it has been since a change from False to True was encountered. For instance, if the the last change from False to True occurred 3 points ago from the current point, the current point would return 3.

Since True



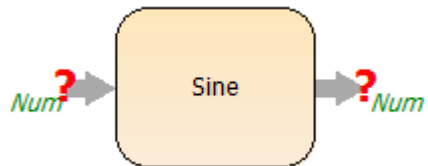
Description

Counts number of points since last time True occurred on the TrueFalse line provided.



The example above draws a line that is the number of points that it has been since a True was encountered. For instance, if the last True occurred 3 points ago from the current point, the current point would return 3.

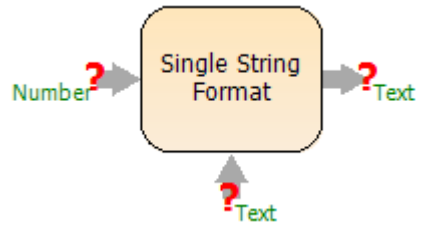
Sine



Description

Returns the Sine of the number provided.

Single String Format



Description

Displays a Single Value applying a format string.

Single to Currency



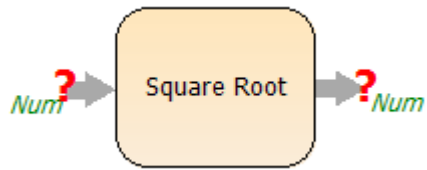
Description

Converts the number provided into currency format.



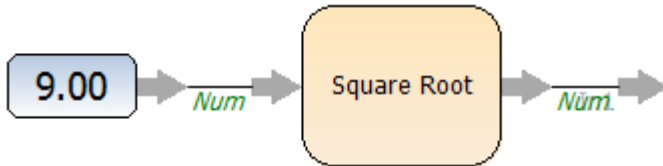
The above example displays \$2.34 in a Legend Display.

Square Root (Number)



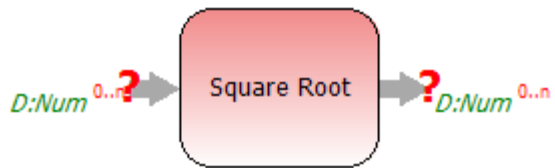
Description

Returns the Square Root of the number provided.



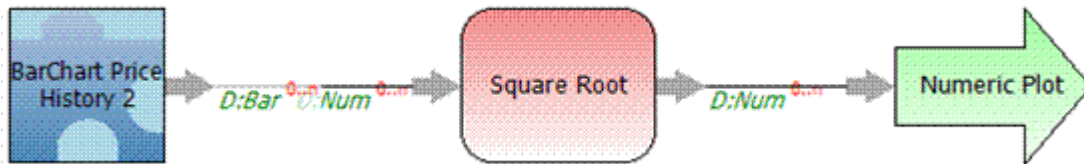
The example above returns the square root of 9 which is 3.

Square Root (Date & Number Series)



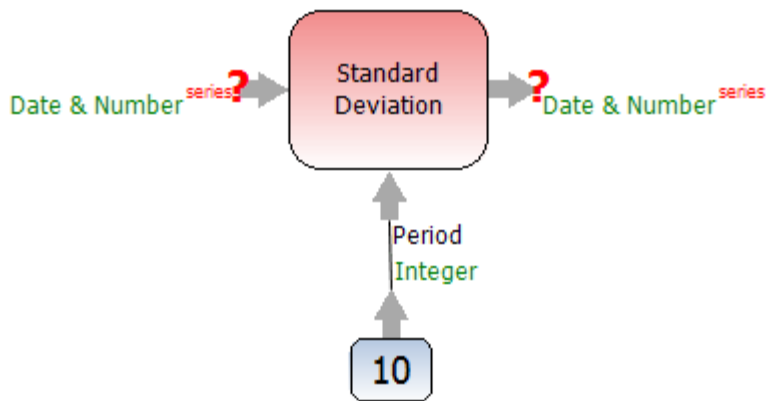
Description

Returns the Square root of the input provided.



The example above draws a line that is the Square Root of the incoming Price line for the selected Symbol.

Standard Deviation



Description

Provides a Standard Deviation for the period provided. The period determines how many values for each date are used for the calculation. For more information on the Standard Deviation calculation go [here](#).

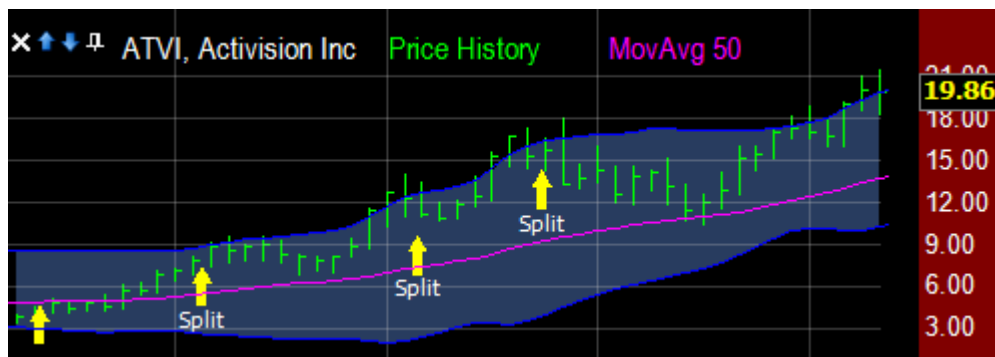
See also the [Standard Deviation](#) indicator.

Uses:

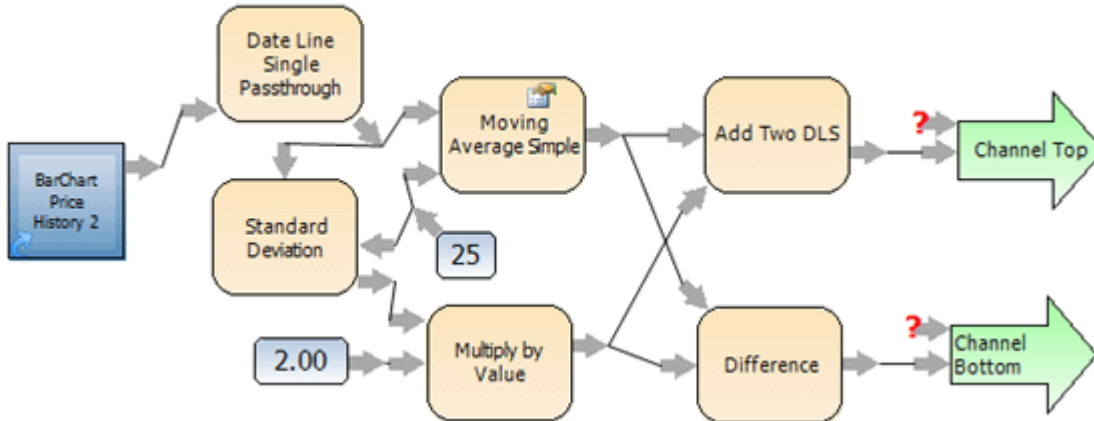
The Standard Deviation block is used anytime you need to calculate the standard deviation of a line. It is used in several indicators including Bollinger Bands and is used in strategy calculations that require Standard Deviation as part of their formula.

Example 1:

The following example is the Bollinger Bands Personal Chartist study. It uses the Standard Deviation block to calculate the values for the upper and lower channels of Bollinger Bands.



The Bollinger Bands plot above uses the Standard Deviation block to calculate the values for Bollinger Bands.



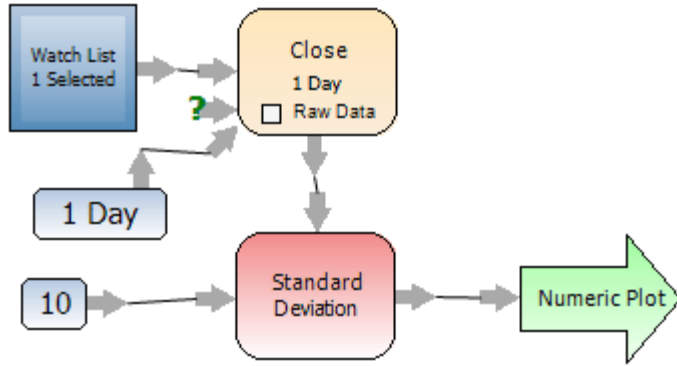
Block diagram for the Bollinger Bands plot in the chart above.

Example 2:

The following example plots the 10 period Standard Deviation of Close prices for the selected WatchList symbol.



The Std Dev of Closes 10, 1 Day plot above plots the 10 period Standard Deviation of the Close prices for the selected WatchList symbol.



Block diagram for for Std Dev of Closes 10, 1 Day plot in the chart above.

Source Code

```

<WBIGuid("c0cc7688-d879-42bd-a4ba-ad4ec7036aaf"),FriendlyName("Standard Deviation"), _
  ClassAuthor("The Blocks Company,LLC - JK", "Provides a Standard Deviation for the period provided.",
  "10/18/2006")> _
Public Class StandardDeviationforPeriod
inherits BaseTemplateDLStoDLSPeriod
'Version 1.03
Public Overrides Sub calculate()
'-----
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' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Standard Deviation."
'
' Changes
' 1.03 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim sumOfPeriod As Single
Dim avgOfPeriod As Single
Dim sumOfDeviations As Single

Dim Period As Integer = ParameterValue
If Period < 2 Then Period = 2
If Period > inputcount - 2 Then Period = inputcount - 2

'count up the values for first period calc
For i As Integer = 0 To Period - 2

```

```
sumofperiod+= InputValue(i)
Next

For i As Integer = Period - 1 To InputCount - 1

sumofperiod += InputValue(i)

avgofperiod = sumofperiod/Period

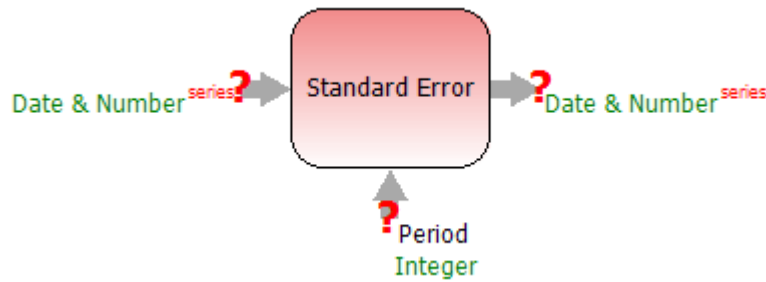
sumofdeviations = 0
'calculate the sum of deviations for period
For y As Integer = (i - (Period - 1)) To i
sumofdeviations += (InputValue(y) - avgofperiod)^2
Next

'Calculate Standard Deviation
AddToOutput(Me.CodeBlock.InputDate(i), system.Math.Sqrt(sumofdeviations/Period))

sumofperiod -= Me.CodeBlock.InputValue(i - (Period-1))

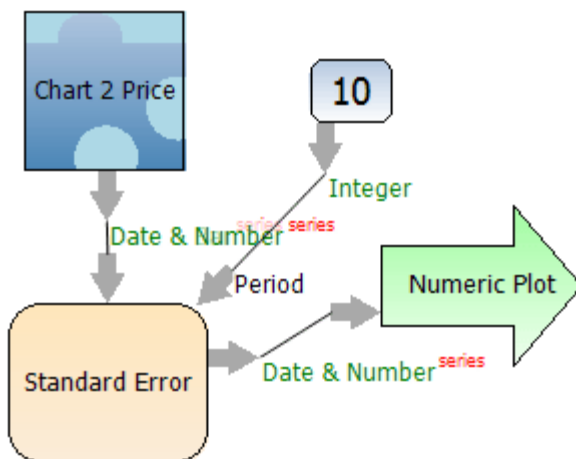
Next
End Sub
End Class
```

Standard Error



Description

Provides Standard Error for the period provided.



The example above plots a 10-period Standard Error of the prices provided.

Source Code

```
<WBIGuid("c7ab5fb4-7069-4da1-af00-d2f63e644611"),FriendlyName("Standard Error"), _  
ClassAuthor("The Blocks Company,LLC - JK", "Provides Standard Error for the period provided.",  
"10/18/2006")> _
```

```
Public Class Standard_Error  
Version 1.01  
Inherits BaseTemplateDLStoDLSPeriod  
Public Overrides Sub calculate()
```

```
'-----  
' This file is part of the Blocks Code Library.  
'
```

```
' Copyright (C) Worden Brothers, Inc.. All rights reserved.  
'
```

```
' Worden Brothers, Inc.. believes the information  
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'
```

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```

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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A  
' PARTICULAR PURPOSE.
```

```
' For the source code and more information on this block go to  
' kb.worden.com And search for "Standard Error."
```

```
' Changes
```

```
' 1.03 - Added If inputcount < 2 Then Exit Sub
```

```
-----  
If inputcount < 2 Then Exit Sub
```

```
Dim sumValues As Single  
Dim sumSqrValues As Single  
Dim sumSqrPeriods As Integer  
Dim sumPeriodsSqr As Integer  
Dim sumPeriods As Integer  
Dim periodNumber As Integer  
Dim sumPeriodValue As Single  
Dim slope As Single  
Dim a As Single  
Dim b As Single  
Dim Period As Single
```

```
'Dim stdError As Single  
'Dim part1 As Single  
'Dim part2 As Single  
'Dim part3 As Single  
Dim divisor As Single
```

```
period = Me.CodeBlock.ParameterValue  
If period < 2 Then period = 2  
If period > inputcount - 2 Then period = inputcount - 2
```

```
'count up the values for first period calc  
For i As Integer = 0 To Period - 2  
sumValues += Me.CodeBlock.InputValue(i)  
sumSqrValues += me.CodeBlock.InputValue(i)^2
```

```
Next
```

```
'count up sum of periods and sum of squared periods  
For i As Integer = 1 To Period  
sumperiods += i  
sumSqrPeriods += i^2  
Next
```

```
sumPeriodsSqr = sumPeriods^2
```

```
For i As Integer = Period - 1 To Me.CodeBlock.InputCount - 1  
'add values for this period to running tallies  
sumValues += Me.CodeBlock.InputValue(i)  
sumSqrValues += me.CodeBlock.InputValue(i)^2
```

```
periodNumber = 0  
sumPeriodValue = 0  
'Loop through values in the period  
For y As Integer = (i - (Period - 1)) To i
```

```

periodNumber += 1
sumPeriodValue += periodNumber * Me.CodeBlock.InputValue(y)

Next

' part1 = 1/(period*(period - 2))
' part2 = (period* sumSqrValues) - sumValues^2
' part3 = ((period * sumPeriodValue) - sumValues * sumPeriods)^2
divisor = (period * sumSqrPeriods) - sumPeriods^2
If divisor = 0 Then divisor = 1

'stdError = system.Math.Sqrt(part1 * (part2 - (part3/divisor)))
'stdError = system.Math.Sqrt((1/(period*(period - 2))) * (((period* sumSqrValues) - sumValues^2) -
(((period * sumPeriodValue) - sumValues * sumPeriods)^2)/divisor)))

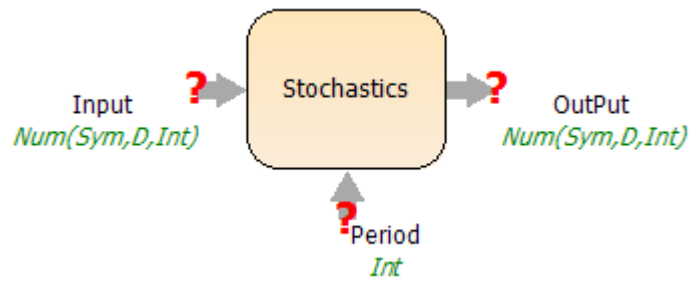
Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), _
system.Math.Sqrt((1/(period*(period - 2))) * _
(((period* sumSqrValues) - sumValues^2) - _
(((period * sumPeriodValue) - sumValues * _
sumPeriods)^2)/divisor))))

'Lob off unneeded values from tallies
sumValues -= Me.CodeBlock.InputValue(i - (Period-1))
sumSqrValues -= Me.CodeBlock.InputValue(i - (Period -1))^2

Next
End Sub
End Class

```

Stochastics (Number(Symbol,Date,integer))

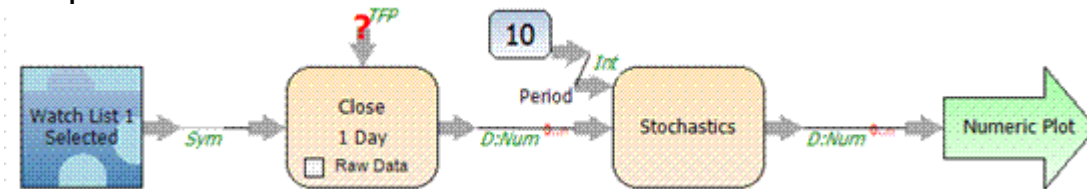


Description

Returns Stochastics for the provided Period and Line.

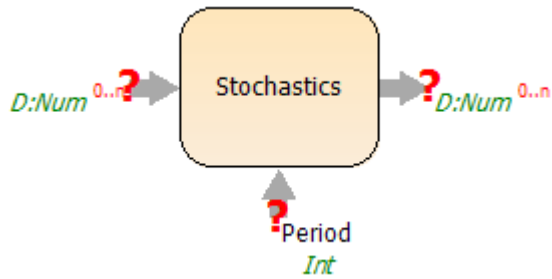
See also the [Stochastics](#) indicator.

Example



The example above draws a line that is a 10-day Stochastic of the daily Close Price for the selected Symbol.

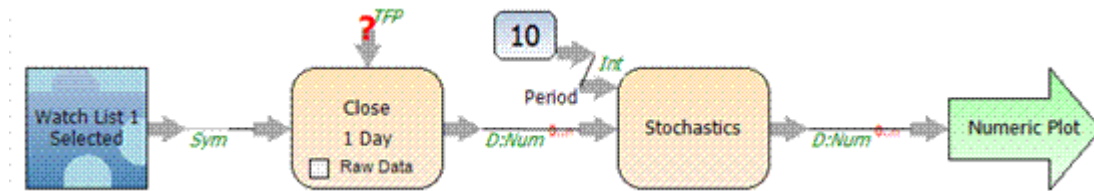
Stochastics (Date & Number Series)



Description

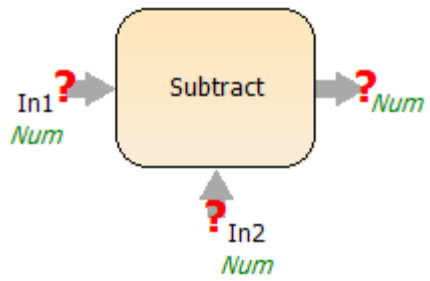
Returns Stochastics for the provided Period and Line.

See also the [Stochastics](#) indicator.



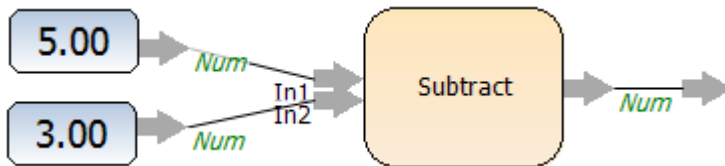
The example above draws a line that is a 10-day Stochastic of the daily Close Price for the selected Symbol.

Subtract



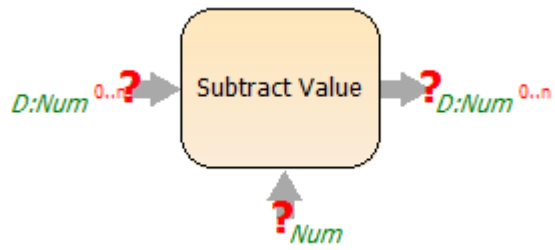
Description

Subtracts In2 from In1.



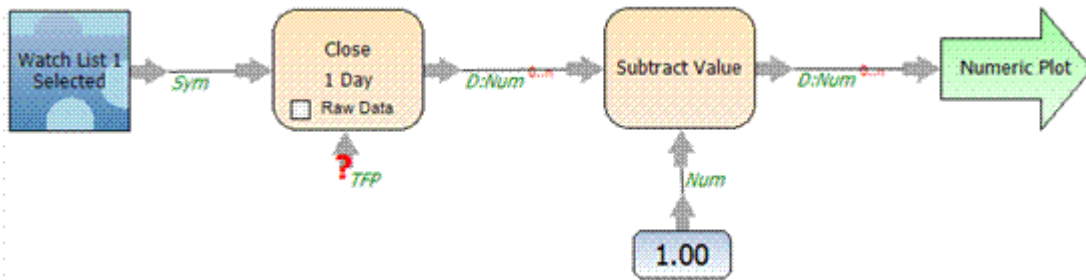
The example above returns 5 minus 3 which is 2.

Subtract Value



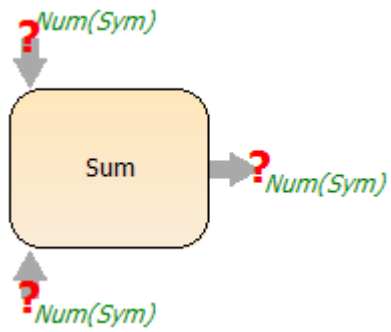
Description

Subtracts the provided Number from all the points on the Line provided.



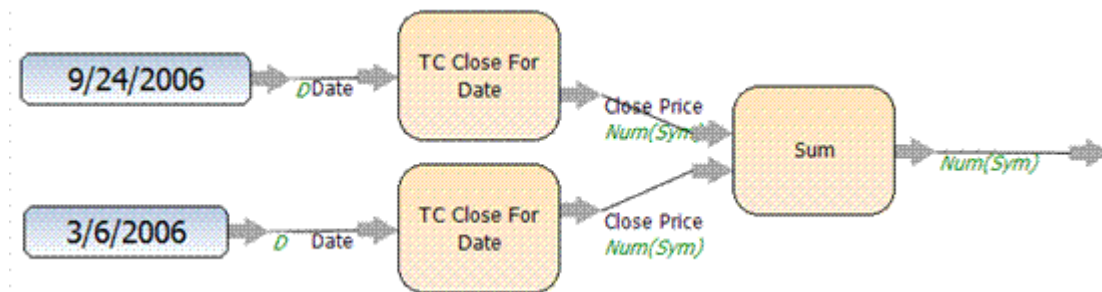
The example above draws a line that is all Close Prices minus \$1 for the selected.

Sum



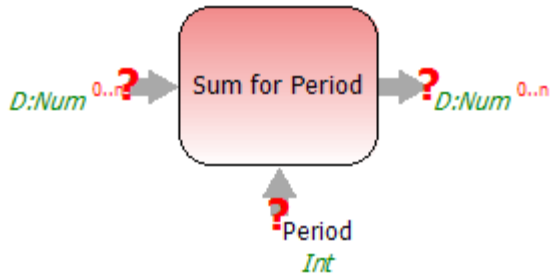
Description

Returns the sum of the two numbers provided.



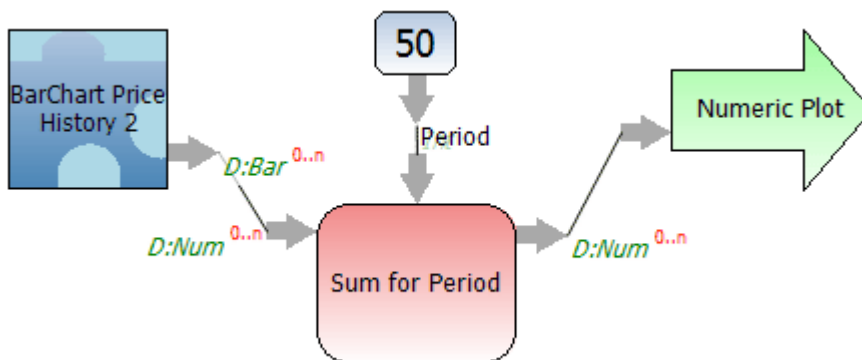
The above example returns the sum of the Close Price on 9/24/2006 and the Close Price 3/6/2006.

Sum for Period



Description

Provides a sum for all values in the period for each point



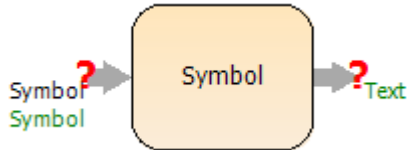
The example above plots a 50-period Sum for Period of the prices provided. In other words, each point on the resulting line is the sum of that point plus the previous 49 values.

Source Code

```
<WBIGuid("b58dc0b8-0eb4-4313-b32e-f1213e61777b"),FriendlyName("Sum for Period"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides a sum for all values in the period. ",
"10/18/2006")> _
Public Class Sum_for_Period
inherits BaseTemplateDLStoDLSPeriod
'Version 1.02
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
' Copyright (C) Worden Brothers, Inc.. All rights reserved.
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
```

```
'  
' For the source code and more information on this block go to  
' kb.worden.com And search for "Sum for Period."  
'  
' Changes  
' 1.02 - Added If inputcount < 2 Then Exit Sub  
'-----  
If inputcount < 2 Then Exit Sub  
  
Dim sumOfValues As Single  
Dim Period As Single = Me.CodeBlock.ParameterValue  
If Period < 1 Then Period = 1  
If Period > Me.CodeBlock.InputCount - 2 Then Period = Me.CodeBlock.InputCount - 2  
  
sumOfValues = 0  
'count up first sums for running tally  
For i As Integer = 0 To Period - 2  
    sumOfValues += Me.CodeBlock.InputValue(i)  
Next  
  
For i As Integer = Period - 1 To Me.CodeBlock.InputCount - 1  
    sumOfValues += me.CodeBlock.InputValue(i)  
  
    me.CodeBlock.AddToOutput(me.CodeBlock.InputDate(i), sumOfValues)  
  
    sumOfValues -= Me.CodeBlock.InputValue(i - (Period - 1))  
  
Next  
End Sub  
End Class
```

Symbol



Description

Returns the Symbol text for the given Symbol.

Uses:

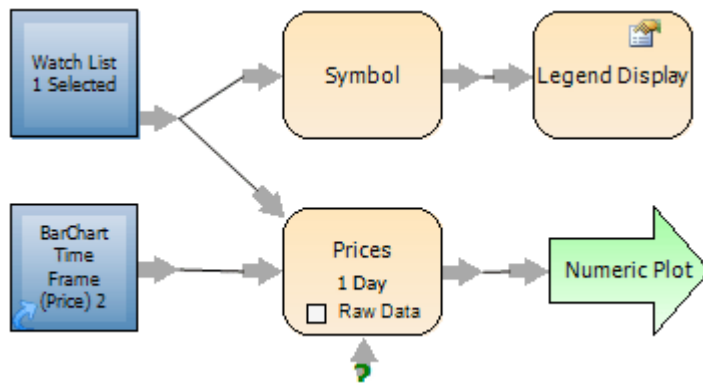
The Symbol block is used anytime that you need to get the symbol's text (i.e. AAPL for Apple, Inc, ERTS for Electronic Arts, etc.). Uses include displaying the symbol's text in a legend or a column or making use of the symbol's text to pull up web pages in the Browser tool.

Example 1:

The following example adds the Symbols text to the legend display for the Price History plot.



The Price History NVDA plot above uses the Symbol block to convert the symbol to the symbols text for display in the legend for the plot.

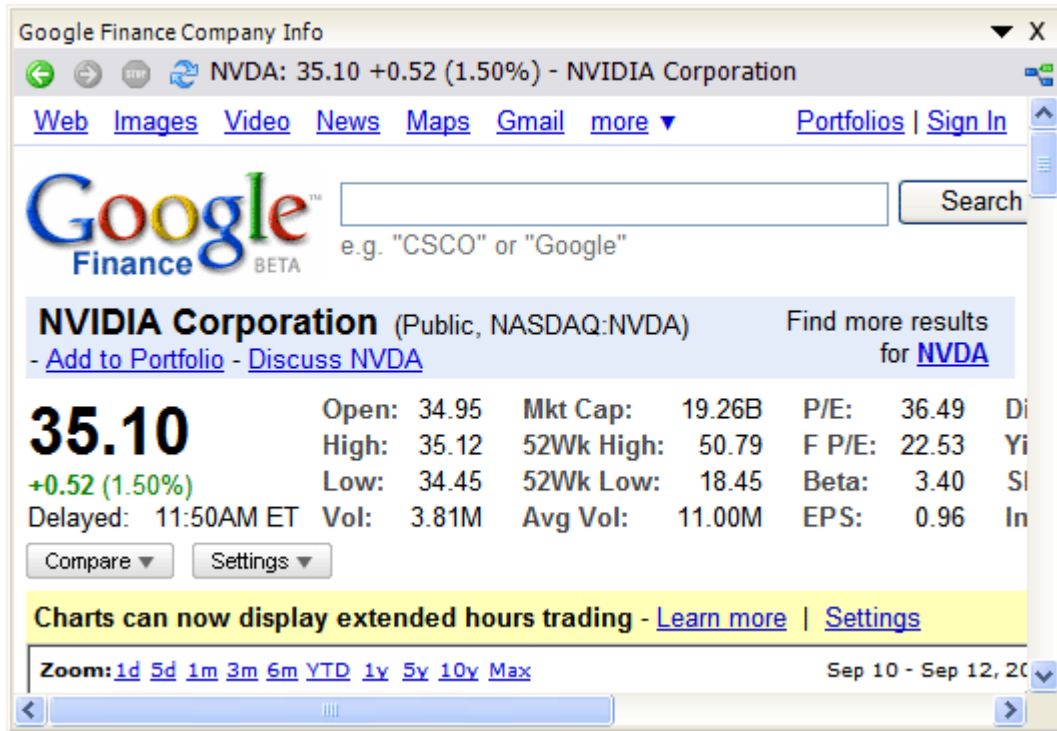


Block diagram for the Price History Plot in the chart above.

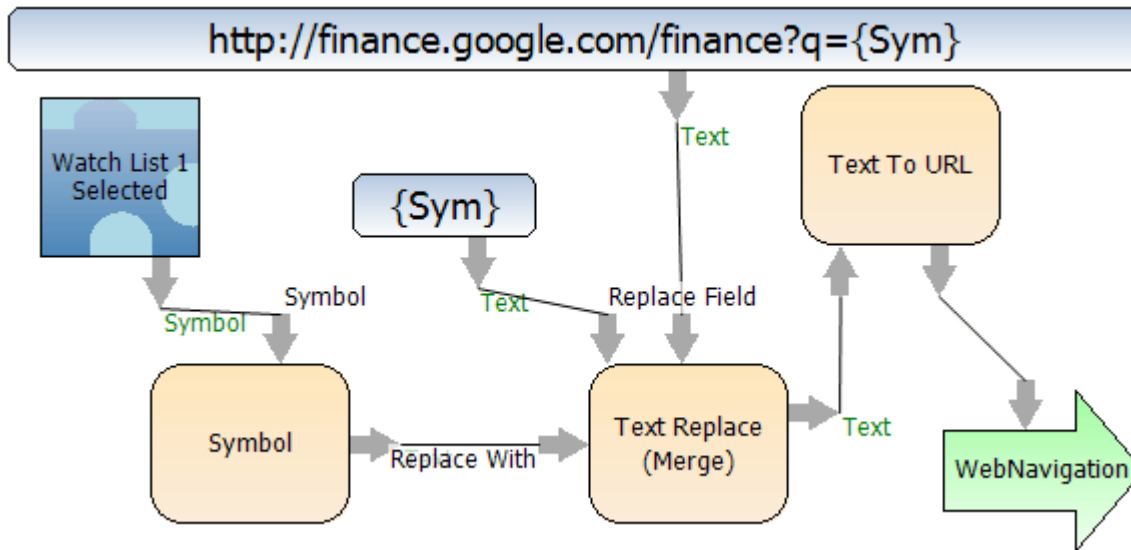
Example 2:

The following example is the Browser tool from Personal Chartist. It uses the Symbol block to convert the symbol to symbol text. then it takes that text and merges it with the Google Finance URL to display the

relevant web page for the selected WatchList symbol.

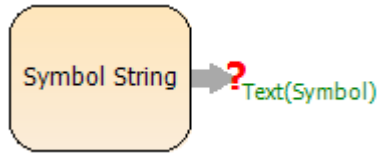


The Browser tool in Personal Chartist uses the Symbol block to convert the symbol to symbol text for use in Google Finance's web address.



Block diagram for the Google Finance browser above. The Symbol block converts the symbol to symbol text and the symbol text is then merged with the Google Finance URL to display the Google Finance page for the selected WatchList symbol.

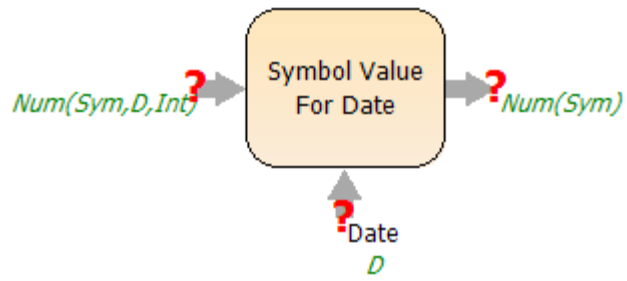
Symbol String



Description

Provides the Symbol text for the given symbol.

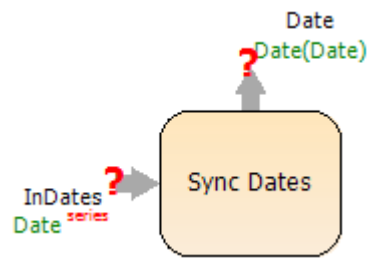
Symbol Value For Date



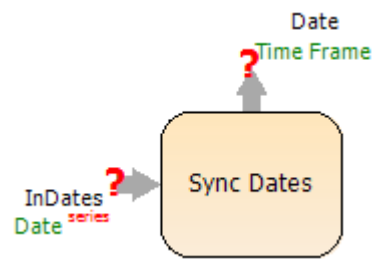
Description

Returns the value for the supplied Symbol on the supplied Date.

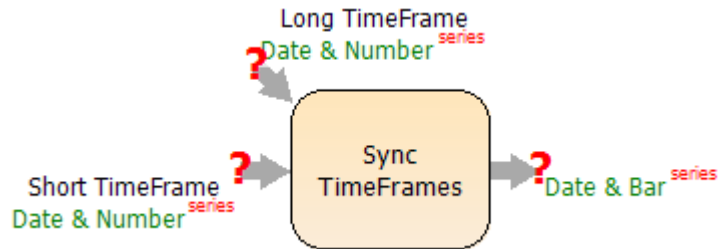
Sync Dates (Date(Date))



Sync Dates (Time Frame)



Sync TimeFrames



Description

The Sync Timeframes block lets you compare a longer timeframe with a shorter one. In the case of comparing daily Close with 30 minute bars, it brings forward the Close of the previous day to each of the 30 minute bars it creates for the day (because the close of the day has not yet been established). In the case of the last day on the chart, if your timeframe is set to streaming, it will create a daily bar for today and will therefore use the last price of the day as the Close.

Uses:

The Sync TimeFrames block is used when you would like to compare lines or bars with different time frames to each other. Uses include studies, strategies and displaying values in tools such as data displays and columns.

Example:

Figure 1 shows regular daily price history data in the top pane and regular weekly price history data in the bottom pane. Figure 2 shows the same daily data in the top pane, but the weekly data in the bottom pane uses the Sync TimeFrames block along with the timeframe from the daily data in the top pane to generate daily bars from the weekly data. The True marker plot in Figure 4 then compares the daily Close prices to the synchronized weekly Close prices and places True markers on the chart when the daily Close prices are less than the weekly Close prices.



Figure 1. The bottom pane contains regular weekly data.

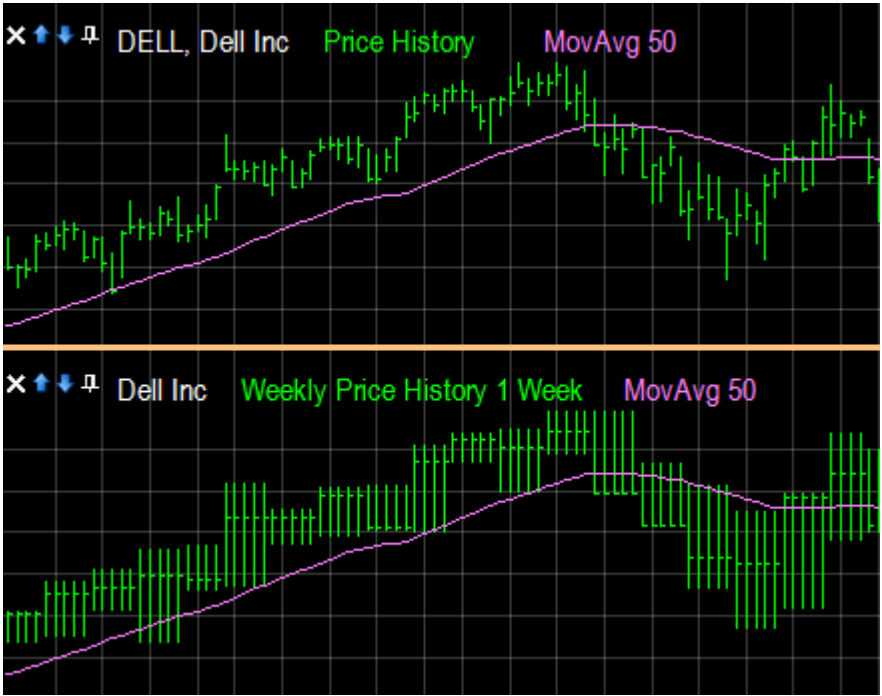


Figure 2. The bottom pane contains weekly data that has been synchronized to the daily data in the top pane using the Sync TimeFrames block.

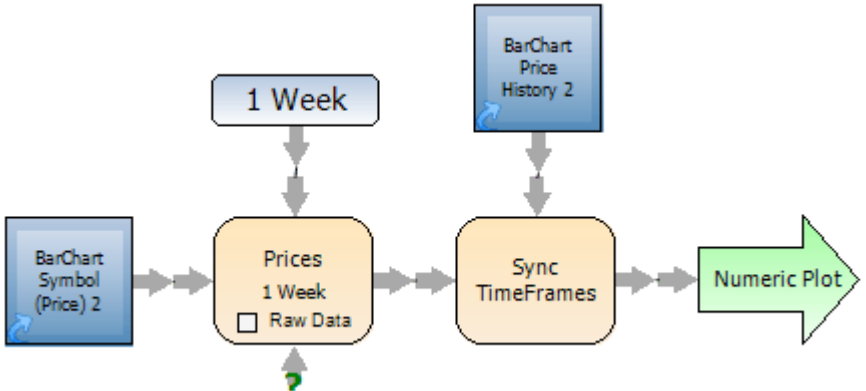


Figure 3. Block diagram for the Weekly Price History 1 Week plot in the bottom pane of the chart in Figure 2.



Figure 4. The Daily < Weekly True markers in the top pane use the daily price Close prices and the synchronized weekly price Close prices to plot the points where the daily Close prices are greater than the weekly Close price.

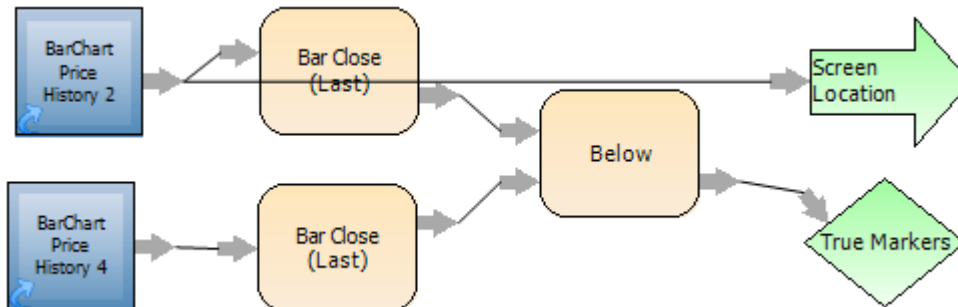
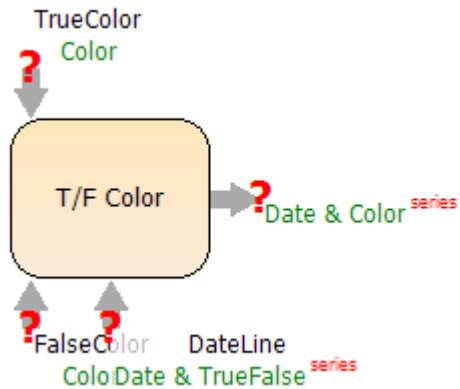


Figure 5. Block diagram for the Daily < Weekly True marker plot in the top pane of the chart in figure 4.

T/F Color (Date & TrueFalse Series)



Description

Assigns color to the incoming TrueFalse Line. It assigns one color to all Trues and one color to all Falses.

Uses:

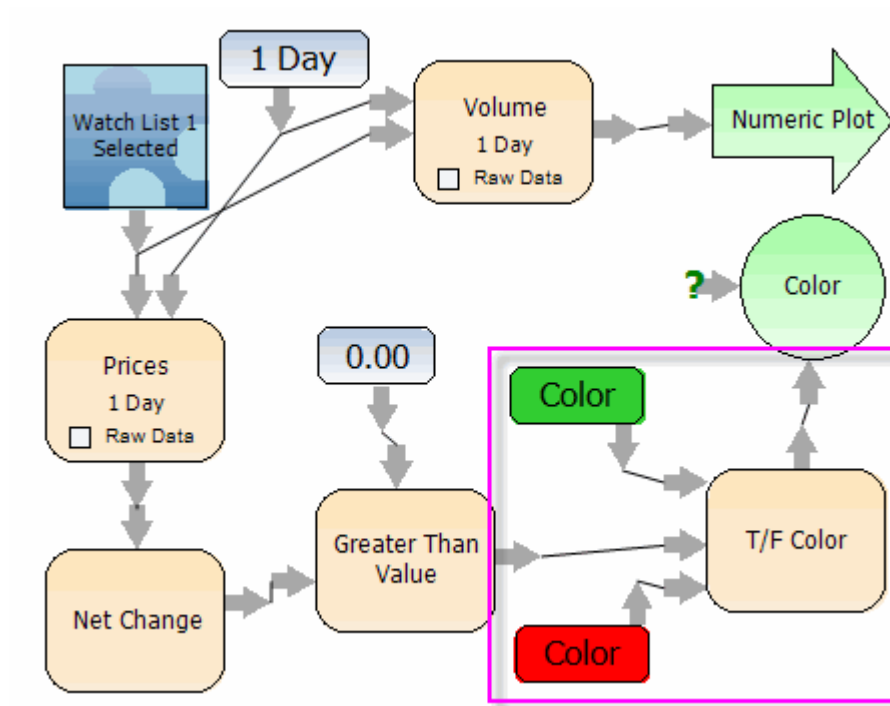
The Date & TrueFalse series version of T/F Color is used anytime you want to assign one color to Trues and another color to Falses in a series of True falses. Uses include coloring lines, bars, and candles. See also [T/F Color \(TrueFalse\)](#).

Example

The Example below plots Volume bars for the selected symbol in the WatchList. The Net Change in Price for the selected symbol is used to determine the color of the Volume plot. If the net change in price is greater than 0, a True value is passed to the T/F color block and the volume bar is painted green. If the net change in price is 0 or less, a False value is passed to the T/F color block and the volume bar is painted red.



The volume bars are colored green when the net change is above zero. Otherwise they are colored red.



Block diagram for the volume bars in the chart above.

Note: If the FalseColor input was disconnected (i.e. no color assigned to it), then all False points on the line would have no color so they would be transparent. The same holds true for the TrueColor input.

T/F Color (TrueFalse)

Description

If the input is True then the True color is output. If the input is False, then the False color is output.

Uses:

The TrueFalse version of the T/F Color block is used when you want to assign a color to one TrueFalse value. Uses include coloring the text or background of a column or data display. See also [T/F Color \(Date & TrueFalse Series\)](#).

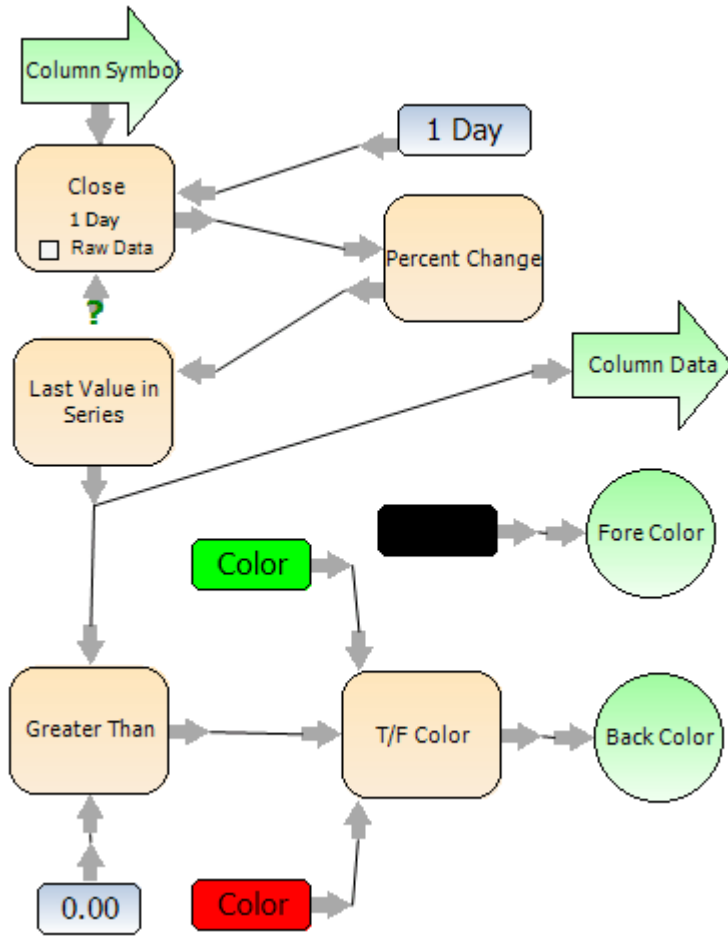
Example:

The following example colors the background of an entry in a column green if the percent change is greater than zero. Otherwise, it gets colored red.



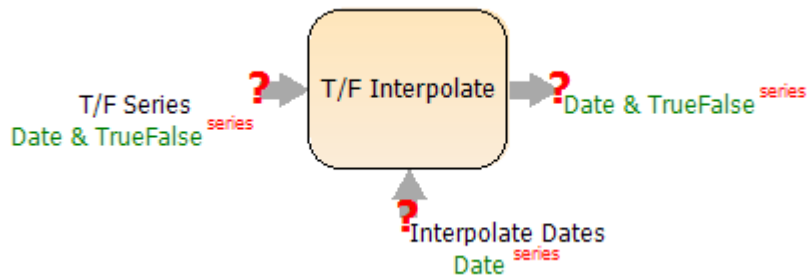
Symbol	Company Name	% Change
AAPL	Apple Inc	1.62
ADBE	Adobe Systems Inc	-0.07
ADSK	Autodesk Inc	0.58
AKAM	Akamai Technologies Inc	1.39
ALTR	Altera Corp	0.13
AMAT	Applied Materials Inc	1.16
AMGN	Amgen Inc	-0.22
AMLN	Amylin Pharmaceuticals	1.14
AMZN	Amazon.Com Inc	-0.47
APOL	Apollo Group Inc Cl A	-0.61
ATVI	Activision Inc	0.90
BBBY	Bed Bath & Beyond Inc	-1.53
BEAS	Bea Systems Inc	0.92
BIIB	Biogen Idec Inc	2.75
BRCM	Broadcom Corp Cl A	2.68
CDNS	Cadence Design Systems	0.37

The % Change column's backgrounds are colored either green or red depending on whether the % change is greater than zero or not.



Block diagram for the % Change column above.

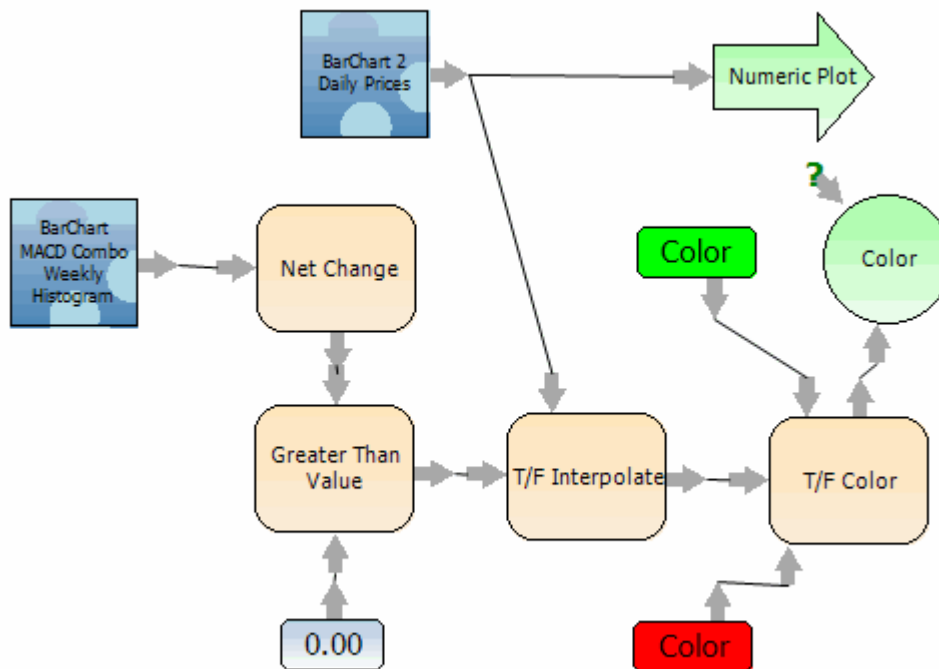
T/F Interpolate



Description

Interpolates the T/F value of an input for dates that do not match the Interpolate Dates series input.

Example

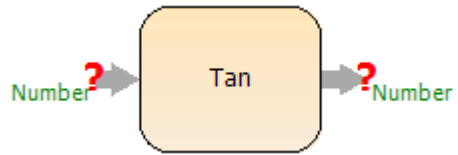


In the example above, weekly data from BarChart MACD Combo Weekly Histogram is used to color the daily bars on the BarChart 2 Daily Prices plot. If the Net Change in the Histogram plot is positive, the price bar is colored Green, if the Net Change is negative, the price bar is colored Red. But the Histogram plot only provides T/F values for the last date of each calendar week. T/F Interpolate takes in a series of dates from the BarChart 2 Daily Prices block and fills in the T/F values for the missing dates.

On the chart below, if the Net Change is positive on Friday (or the end of the calendar week), the Daily Price plot will remain green until the following Friday (or end of calendar week.)



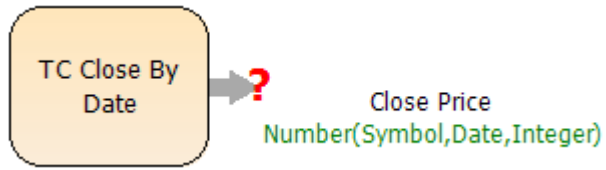
Tan



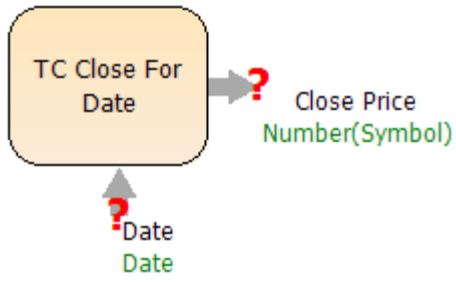
Description

Returns the Tangent of the Number provided.

TC Close By Date



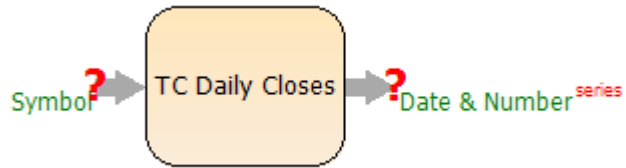
TC Close For Date



Description

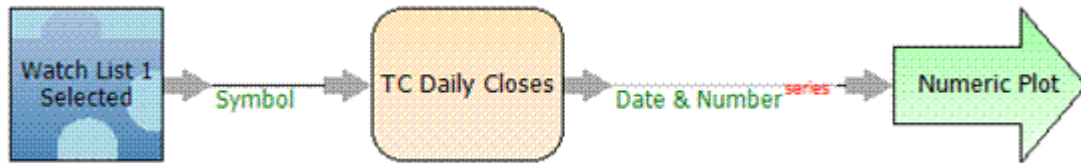
Returns the Close Price for the date provided from the TeleChart database.

TC Daily Closes



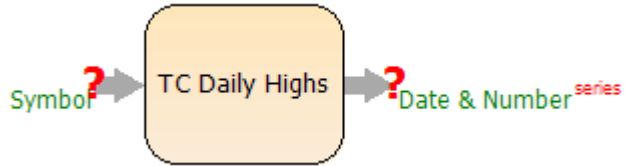
Description

Returns the daily Close Prices from the Telechart database.



The above example draws a line of daily Close Prices from the TeleChart database for the selected Symbol.

TC Daily Highs



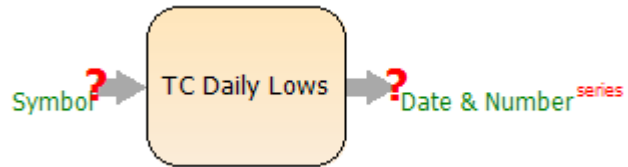
Description

Returns daily High Prices from the TeleChart database.



The above example draws a line of daily High Prices from the TeleChart database for the selected Symbol.

TC Daily Lows



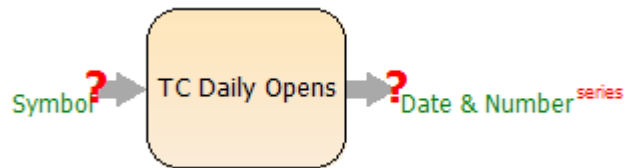
Description

Returns the daily Low Prices from the TeleChart database.



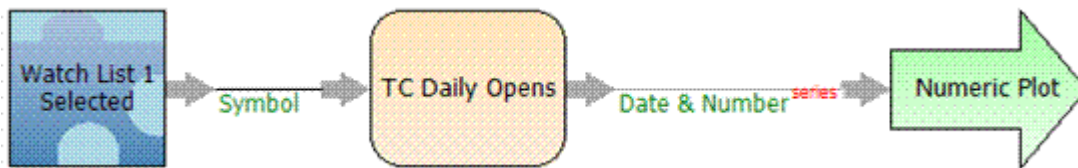
The above example draws a line of daily Low Prices from the TeleChart database for the selected Symbol.

TC Daily Opens



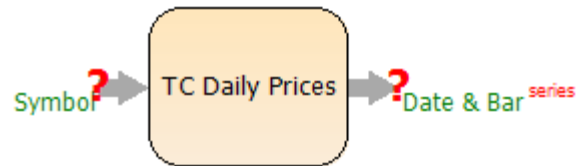
Description

Returns the daily Open Prices from the TeleChart database.



In the above example a line of Daily Open prices is being drawn for the selected Symbol.

TC Daily Prices



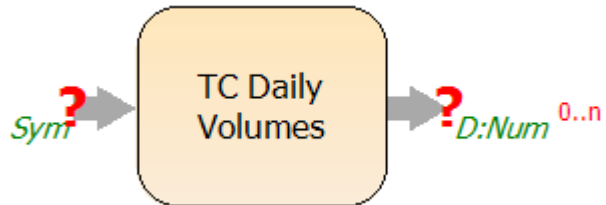
Description

Returns daily Price Bars from the TeleChart database.



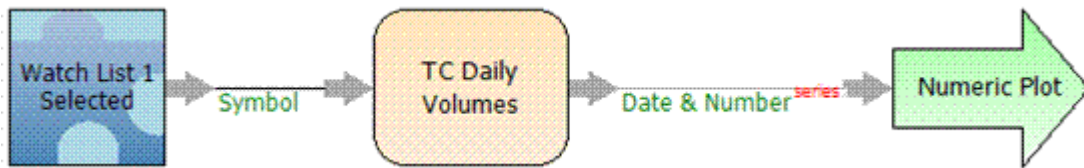
The above example draws a line of daily Prices from the TeleChart database for the Symbol selected.

TC Daily Volumes



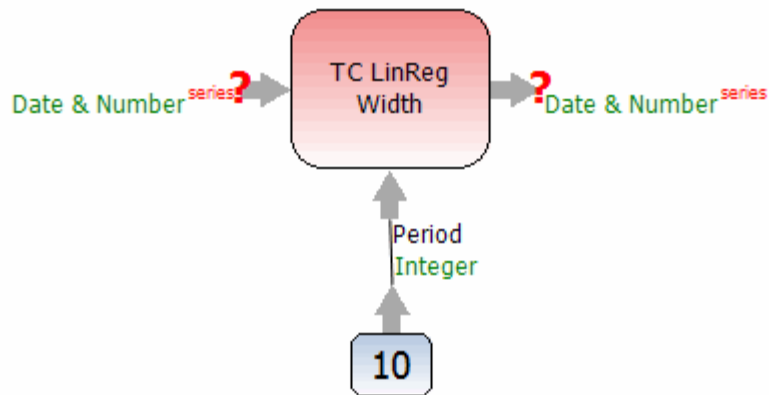
Description

Returns daily Volume from the TeleChart database.



The above example draws a line of daily volume on a chart for the selected Symbol.

TC LinReg Width



Description

Calculates linear regression channel width using the same method as TeleChart.

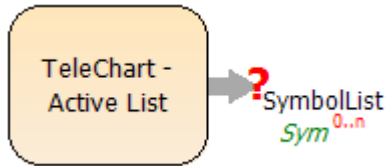
The channel width is the average of the absolute differences between the parent value minus the average of the parent values up until that point calculated from the oldest to newest values in the Linear Regression Period. The width value is in tenths, so a value of 20 will result in a width equal to twice the result of the channel width calculation.

Source Code

```
<WBIGuid("a554d6dc-df4f-49f4-87ca-7b71ec9b7d9e"),FriendlyName("TC LinReg Width")> _
Public Class TC_LR_Width
inherits BaseTemplateDLStoDLSPeriod
Public Overrides Sub calculate()
-----
' This file is part of the Blocks Code Library.
'
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' KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Standard Deviation."
-----
If ParameterValue <= InputCount
Dim sum As Double = 0
```

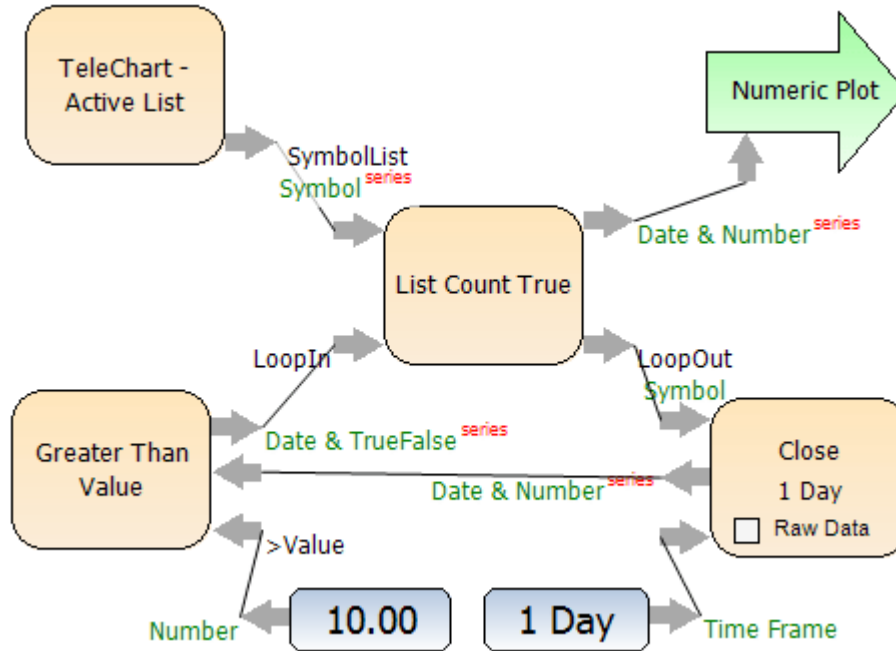
```
Dim mean As Double = 0
Dim mad As Double = 0
For bar As Integer = ParameterValue - 1 To InputCount - 1
  For bar1 As Integer = 1 To ParameterValue
    sum = sum + InputValue(bar-ParameterValue-1+bar1)
    mean = sum / bar1
    mad = mad + System.Math.Abs(InputValue(bar-ParameterValue-1+bar1)-mean)
  Next
  AddToOutput(InputDate(bar),mad / ParameterValue / 2)
  sum = 0
  mad = 0
Next
End If
End Sub
```

TeleChart - Active List



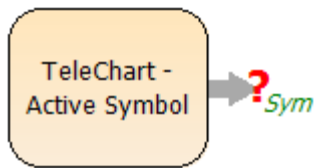
Description

Returns the current active list in TeleChart.



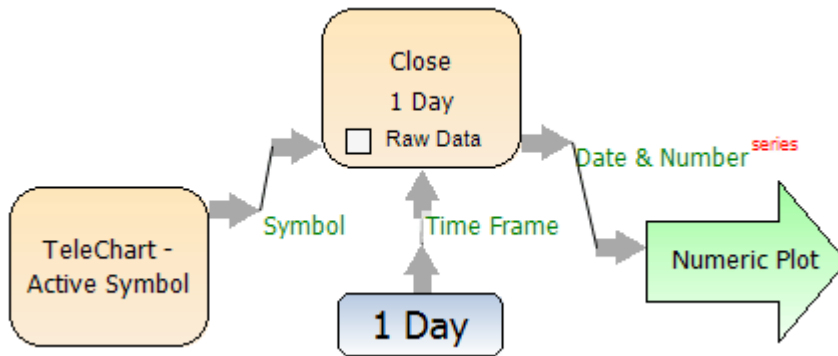
The above example goes through the items in the currently active list in Telechart and counts how many of those items had a daily close above \$10.

TeleChart - Active Symbol



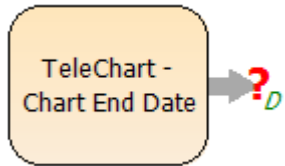
Description

Returns the active Symbol from Telechart.



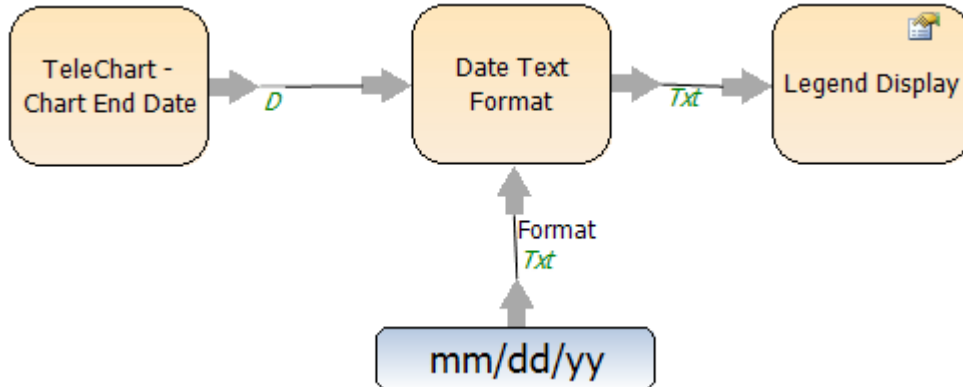
The above example draws a line of the daily closes for the current active Symbol in TeleChart.

TeleChart - Chart End Date



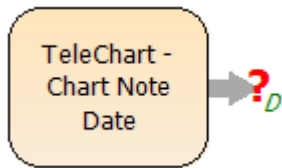
Description

Returns the end date for the current chart in Telechart.



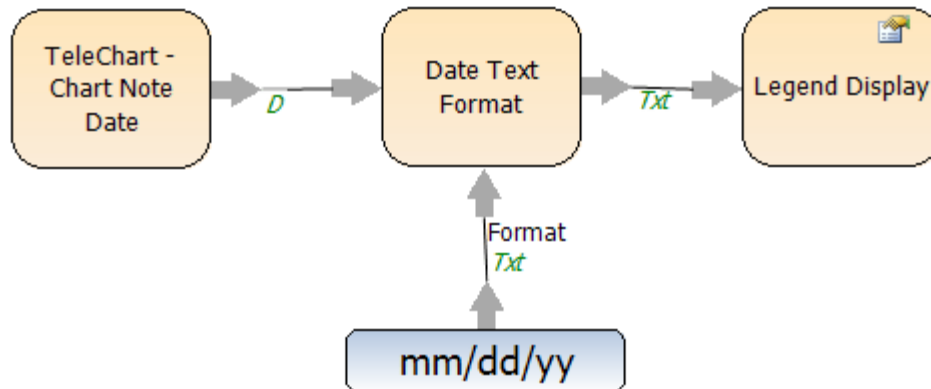
The above example displays the current chart end date from TeleChart in the legend display of a Chart tool window.

TeleChart - Chart Note Date



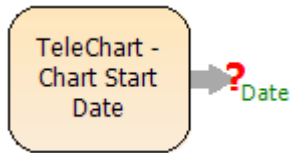
Description

Returns the date of the current Chart Note in TeleChart.



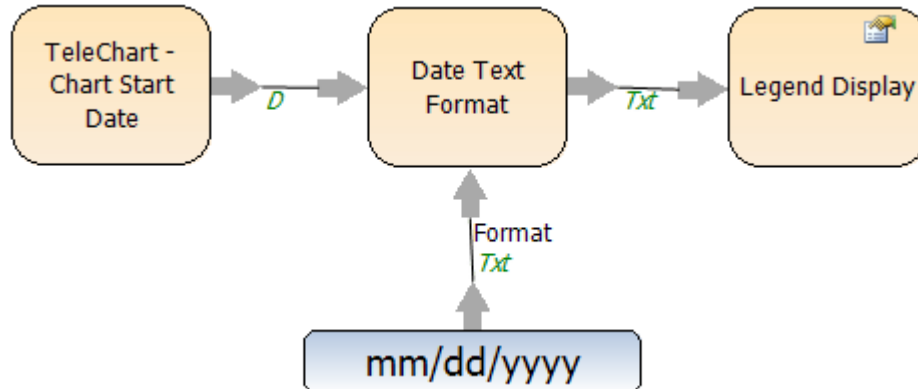
The above example displays the date of the current Chart Note in Telechart in the legend display of a Chart tool window.

TeleChart - Chart Start Date



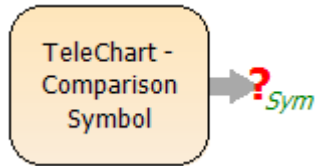
Description

Returns the start date of the current chart in TeleChart.



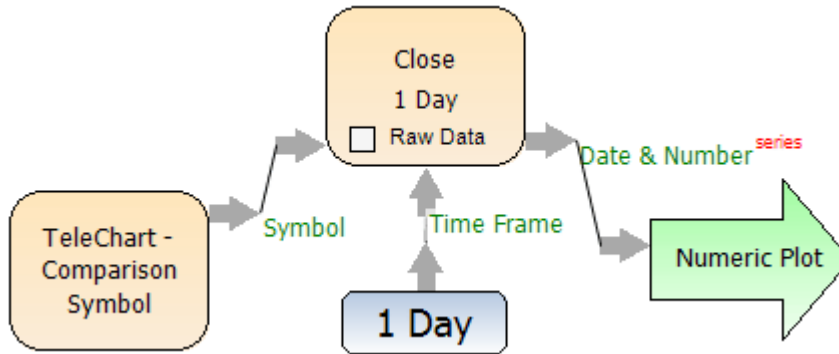
The above example displays the start date of the current chart in TeleChart in a Chart tool window legend display.

TeleChart - Comparison Symbol



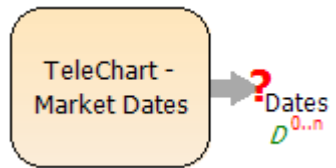
Description

Returns the current Comparison Symbol in TeleChart.



The above example draws a line of daily prices for the comparison Symbol in TeleChart.

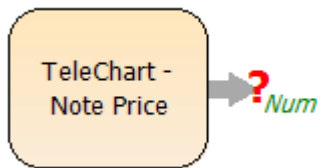
TeleChart - Market Dates



Description

Returns all available Market dates in the TeleChart database.

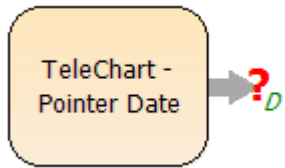
TeleChart - Note Price



Description

Returns the current note price in TeleChart.

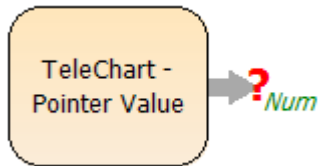
TeleChart - Pointer Date



Description

Returns the current date value of the TeleChart pointer.

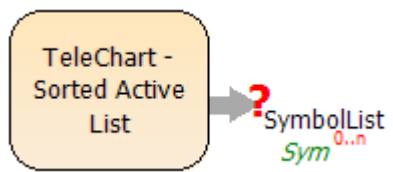
TeleChart - Pointer Value



Description

Returns the current TeleChart pointer value.

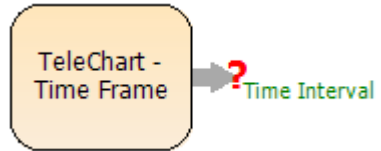
TeleChart - Sorted Active List



Description

Returns the current TeleChart sorted active list.

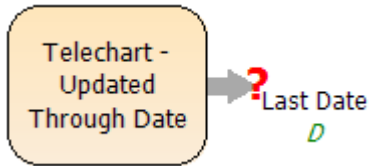
TeleChart - Time Frame



Description

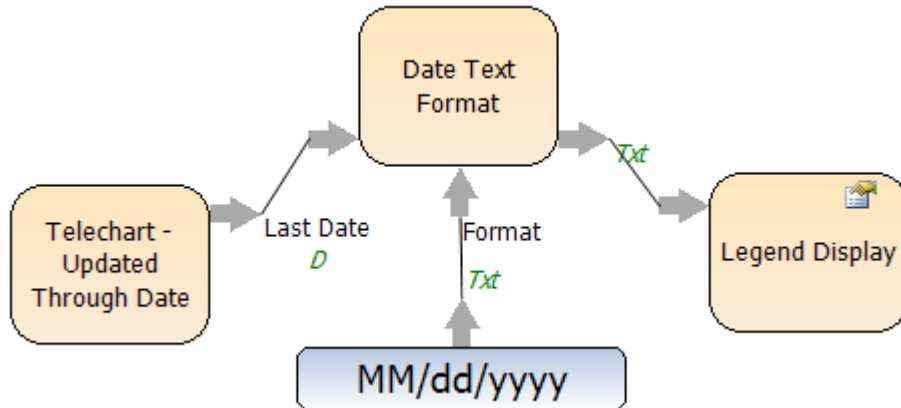
Returns the current TeleChart time frame.

Telechart Updated Through Date



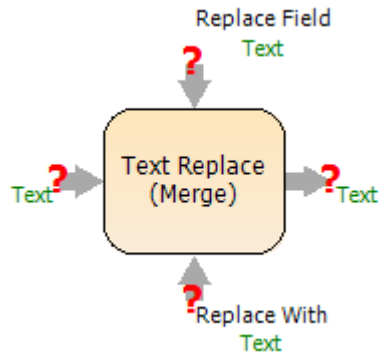
Description

Provides the date for the last time that TeleChart was updated.



In the above example, the date that TeleChart was last updated is displayed in the legend display in the format mm/dd/yyyy.

Text Replace (Merge)



Description

Replaces the provided Replace Field with the provided Replace With text. It is used for text substitution or merging of one string of text into another.

Uses:

The Text Replace (Merge) block is most commonly used to replace the symbol text for a symbol in a webpage URL but the block can also be used to format text for display in items including legend displays and data displays.

Example:

The following example is the Browser tool from Personal Chartist. It uses the Text Replace (Merge) block to merge the Google Finance web address with the text from a symbol. Notice that the Google Finance URL contains the text "{Sym}." That is the variable part of the address that will be replaced by the text coming in through the Replace With connector. We know this because the Replace Field connector contains that same text ({Sym}).

Google Finance Company Info

NVDA: 35.10 +0.52 (1.50%) - NVIDIA Corporation

Web Images Video News Maps Gmail more Portfolios | Sign In

Google Finance BETA e.g. "CSCO" or "Google" Search

NVIDIA Corporation (Public, NASDAQ:NVDA) Find more results for **NVDA**
- [Add to Portfolio](#) - [Discuss NVDA](#)

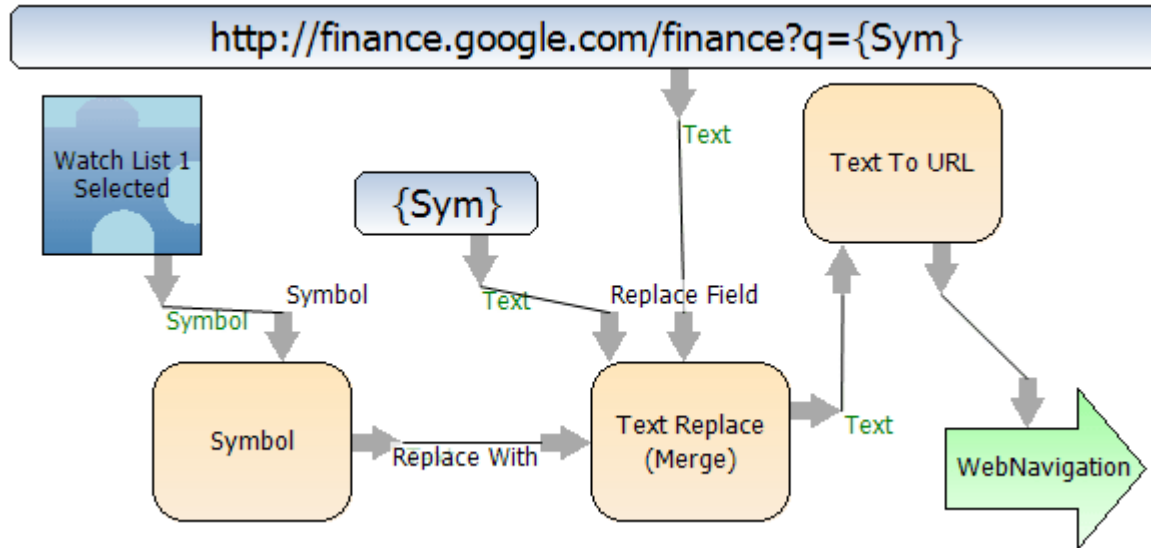
35.10	Open: 34.95	Mkt Cap: 19.26B	P/E: 36.49	Di
+0.52 (1.50%)	High: 35.12	52Wk High: 50.79	F P/E: 22.53	Yi
Delayed: 11:50AM ET	Low: 34.45	52Wk Low: 18.45	Beta: 3.40	Sl
	Vol: 3.81M	Avg Vol: 11.00M	EPS: 0.96	In

Compare Settings

Charts can now display extended hours trading - [Learn more](#) | [Settings](#)

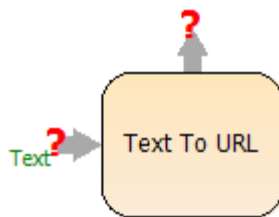
Zoom: 1d 5d 1m 3m 6m YTD 1y 5y 10y Max Sep 10 - Sep 12, 2008

The Google Finance browser from Personal Chartist uses the Text Replace (Merge) block to add the symbol's text to the URL.



Block diagram for the Google Finance browser above. The Text Merge (Replace) block takes in the text that is used as the replacement from the Symbol block as well as a string that defines which part of the URL to replace with the given Replace With text.

Text To URL



Description

Converts a string of text to a URL.

Uses:

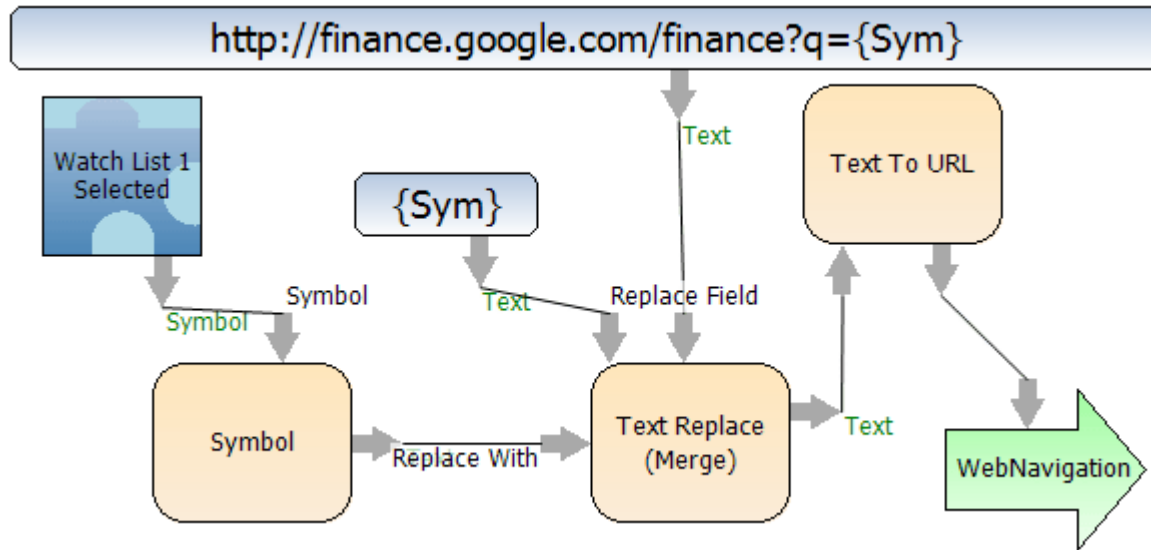
The Text To URL block is used anytime you want to convert a string of text to a format that blocks will recognize as a web address.

Example

The following example is the Google Finance browser from Personal Chartist. It uses the Text To URL block to convert the incoming merged text to a URL for use with the Blocks browser too.

The screenshot shows a web browser window titled "Google Finance Company Info" for NVIDIA Corporation (NASDAQ:NVDA). The address bar displays the stock price: "NVDA: 35.10 +0.52 (1.50%) - NVIDIA Corporation". Below the address bar are navigation links for "Web", "Images", "Video", "News", "Maps", "Gmail", and "more". The main content area features the Google Finance logo and a search bar. The stock price is prominently displayed as "35.10" with a green "+0.52 (1.50%)" change. A table of financial metrics is shown below, including Open, High, Low, Vol, Mkt Cap, 52Wk High/Low, Avg Vol, P/E, F P/E, Beta, and EPS. A yellow banner at the bottom of the content area reads "Charts can now display extended hours trading - Learn more | Settings". The browser's zoom level is set to "1d" and the date is "Sep 10 - Sep 12, 2008".

The Google Finance browser from Personal Chartist uses the Text To URL block to convert the merged text string from the Text Replace (merge) block to a URL.



Block diagram for the Google Finance browser above.

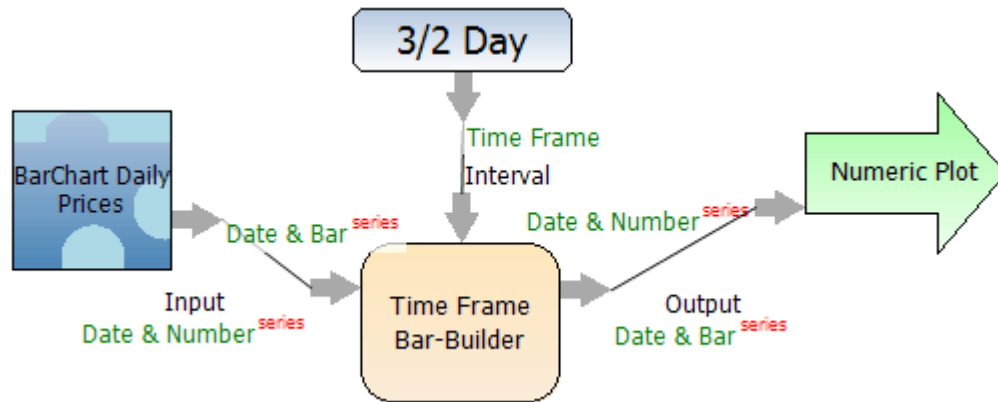
Time Frame: 3/2 Days

3/2 Day

?
Time Frame

Description

Provides 3/2 day dates. This time frame divides up the trading week into Monday, Tuesday and Wednesday (the 3) for the first bar and Thursday and Friday (the 2) for the second bar.



In the above example, the Time Frame: 3/2 Days block is used to set the Time Frame Bar-Builder block to provide 3/2 day bars.

Time Frame: Day

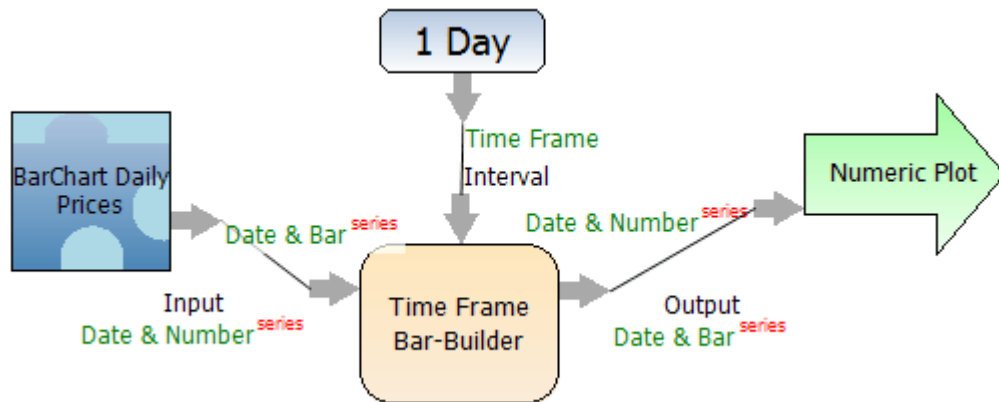
1 Day



Time Frame

Description

Provides daily dates.



In the above example, the Time Frame: Day block is used to set the Time Frame Bar-Builder block to provide daily bars.

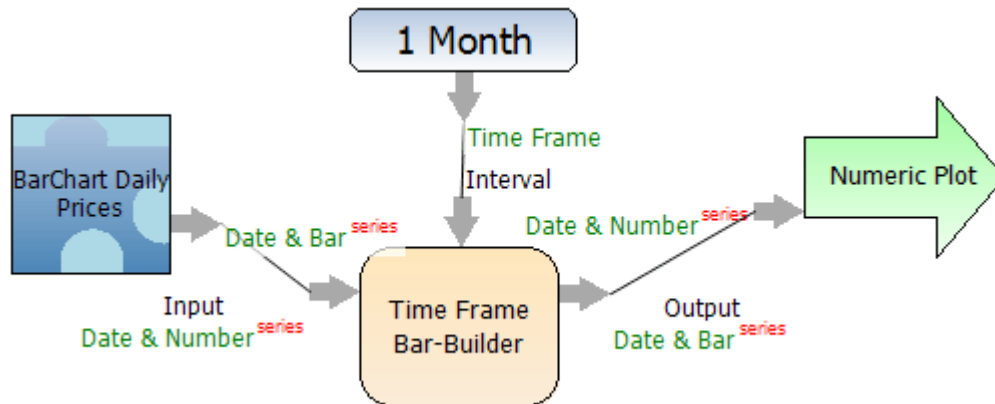
Time Frame: Month

1 Month

?
Time Frame

Description

Provides monthly dates.



In the above example, the Time Frame: Month block is used to set the Time Frame Bar-Builder block to provide monthly bars.

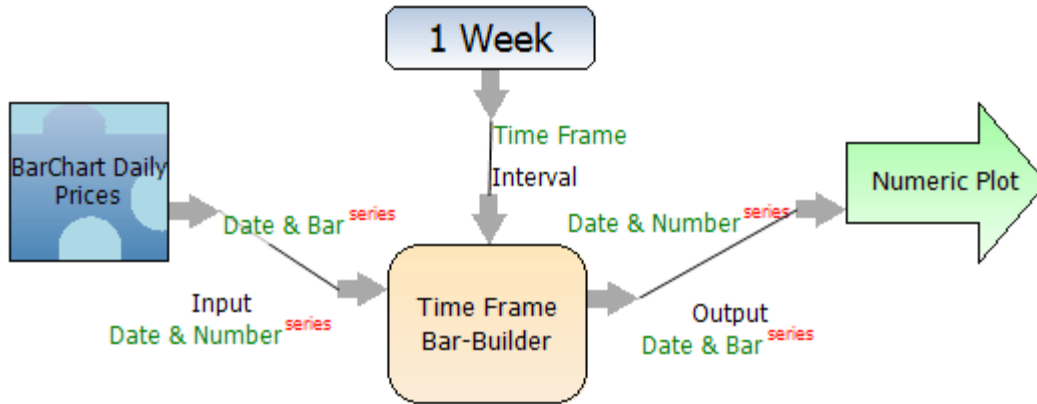
Time Frame: Week

1 Week

? Time Frame

Description

Provides weekly dates.



In the above example, the Time Frame: Week block is used to set the Time Frame Bar-Builder block to provide weekly bars.

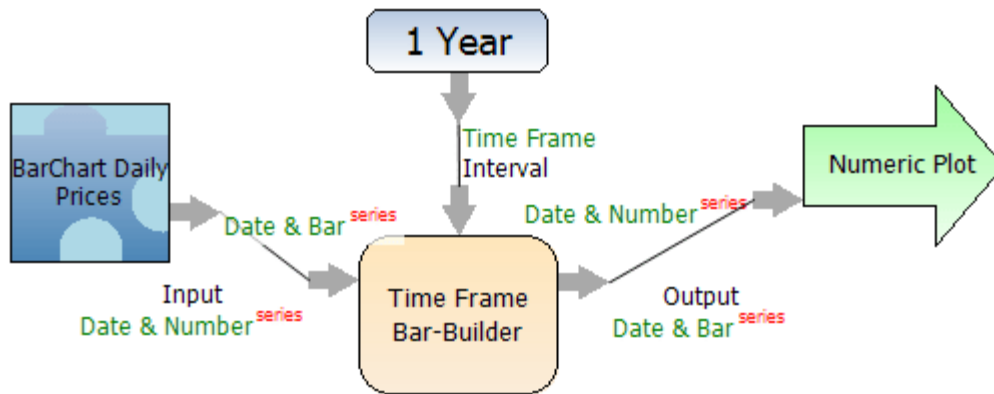
Time Frame: Year

1 Year

? Time Frame

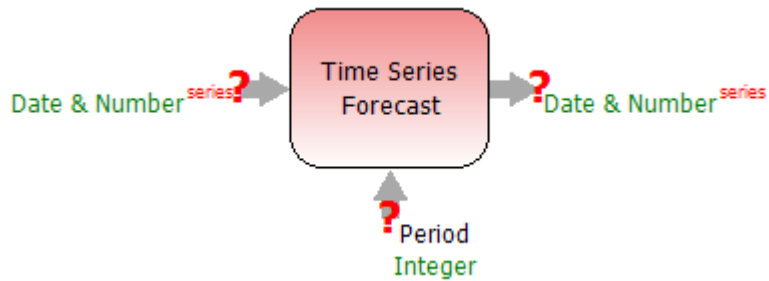
Description

Provides yearly dates.



In the above example, the Time Frame: Year block is used to set the Time Frame Bar-Builder block to provide yearly bars.

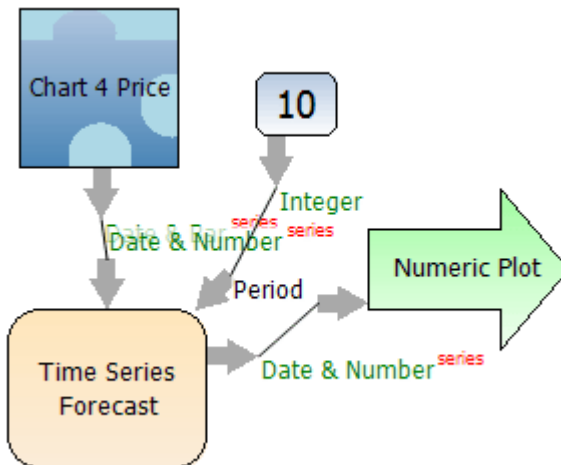
Time Series Forecast



Description

Returns the Time Series Forecast indicator for the period provided.

See also the [Time Series Forecast](#) indicator.



The example above plots a 10-period Time Series Forecast of the prices provided.

Source Code

```
<WBIGuid("3b8e2603-8d0f-4984-9ba4-51ea7ceaf24d"),FriendlyName("Time Series Forecast"), _
ClassAuthor("The Blocks Company,LLC - JK", "Returns the Time Series Forecast indicator for the period
provided.", "10/18/2006")> _
Public Class TimeSeriesForecast
inherits BaseTemplateDLStoDLSPeriod
'Version 1.04
Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
'
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```

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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A  
' PARTICULAR PURPOSE.
```

```
' For the source code and more information on this block go to  
' kb.worden.com And search for "Time Series Forecast."
```

```
' Changes
```

```
' 1.04 - Added If inputcount < 2 Then Exit Sub
```

```
-----  
If inputcount < 2 Then Exit Sub
```

```
Dim sumCloses As Single
```

```
Dim sumSqrPeriods As Integer
```

```
Dim sumPeriodsSqr As Integer
```

```
Dim sumPeriods As Integer
```

```
Dim periodNumber As Integer
```

```
Dim sumPeriodValue As Single
```

```
Dim slope As Single
```

```
Dim a As Single
```

```
Dim b As Single
```

```
Dim Period As Integer = ParameterValue
```

```
If Period < 2 Then Period = 2
```

```
If Period > inputcount - 2 Then Period = InputCount - 2
```

```
'count up the values for first period calc
```

```
For i As Integer = 0 To Period - 2
```

```
sumcloses += InputValue(i)
```

```
Next
```

```
'count up sum of periods and sum of squared periods
```

```
For i As Integer = 1 To Period
```

```
sumperiods += i
```

```
sumSqrPeriods += i^2
```

```
Next
```

```
sumPeriodsSqr = sumPeriods^2
```

```
For i As Integer = Period - 1 To InputCount - 1
```

```
'add values for this period to running tallies
```

```
sumcloses += InputValue(i)
```

```
periodNumber = 0
```

```
sumPeriodValue = 0
```

```
'Loop through values in the period
```

```
For y As Integer = (i - (Period - 1)) To i
```

```
periodNumber += 1
```

```
sumPeriodValue += periodNumber * InputValue(y)
```

```
Next
```

```
'calc slope for current point
```

```
'slope = ((Me.CodeBlock.ParameterValue*sumPeriodValue) - (sumPeriods * sumCloses))/ _
```

```
' ((Me.CodeBlock.ParameterValue*sumSqrPeriods)-sumPeriodsSqr)
```

```

'calc linear regression
b = ((ParameterValue*sumPeriodValue)- (sumPeriods * SumCloses))/ _
  ((ParameterValue*sumSqrPeriods) - sumPeriodsSqr)

'a= (sumCloses - (b*sumPeriods))/Period

'Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), slope + a + (b*Period))

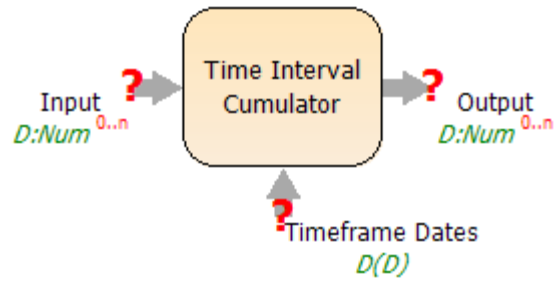
AddToOutput(InputDate(i), ((ParameterValue*sumPeriodValue) - (sumPeriods * sumCloses))/ _
  ((ParameterValue*sumSqrPeriods)-sumPeriodsSqr) + ((sumCloses - (b*sumPeriods))/Period) +
(b*Period))

'Lob off unneeded values from tallies
sumcloses -= InputValue(i - (Period-1))
Next

End Sub
End Class

```

Time Interval Cumulator



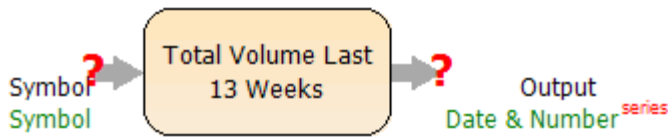
Description

Cumulates the values and reports on the specified time frame.

Related Articles

 [Day of Week](#)

Total Volume Last 13 Weeks



Definition

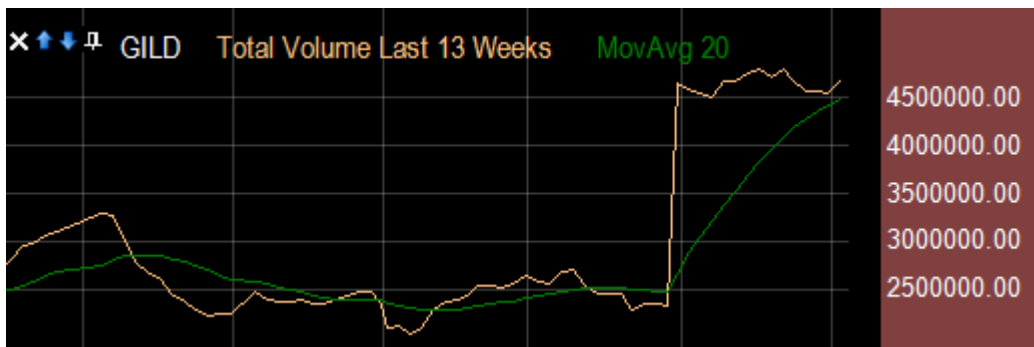
Total volume for the previous 13 weeks, displayed in 100s.

Uses:

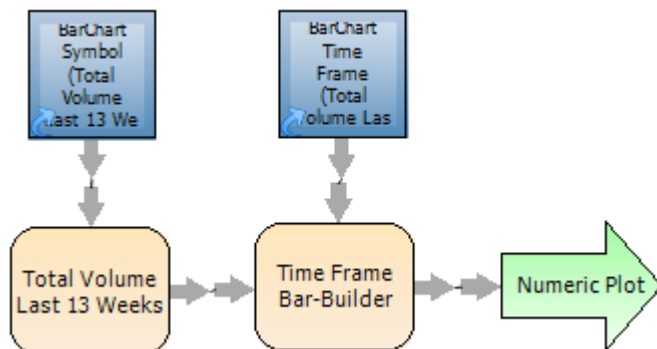
The Total Volume Last 13 Weeks block is used to calculate the total volume in 100's for the last 13 weeks for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Total Volume Last 13 Weeks Personal Chartist Study.

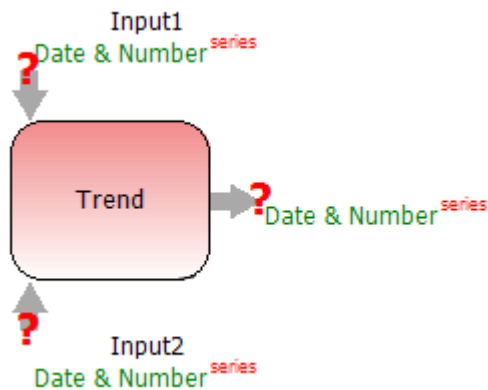


The Total Volume Last 13 Weeks plot uses the Total Volume Last 13 Weeks block to plot the indicator.



Block diagram for the Total Volume Last 13 Weeks plot in the chart above.

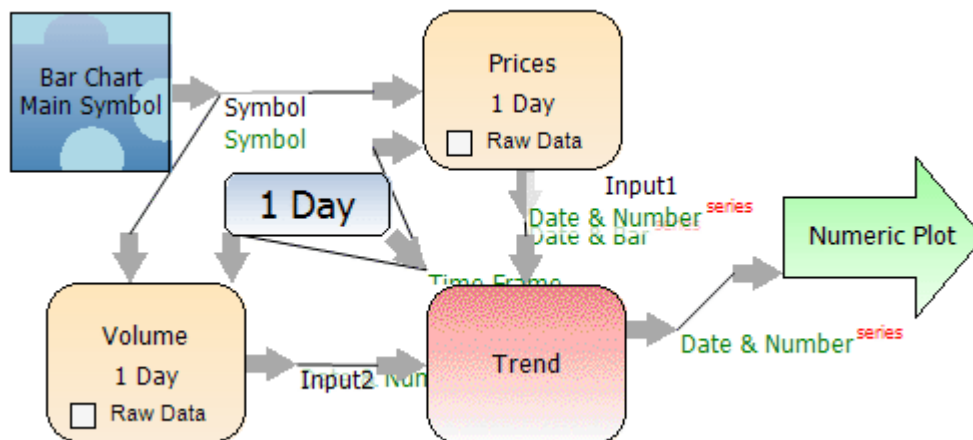
Trend



Description

Provides Trend for use in the Price and Volume Trend indicator for the Prices (Input1) and Volumes (Input2) provided.

See also the [Price and Volume Trend](#) indicator.



The example above plots a Price and Volume Trend for the Symbol provided.

Source Code

```
<WBIGuid("aa8d1046-504b-424b-b7f3-a56da5cfbf31"),FriendlyName("Trend"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides Trend for use in the Price and Volume Trend
indicator for the Prices (Input1) and Volumes (Input2) provided.", "10/17/2006")> _
Public Class PriceAndVolumeTrend
inherits BaseTemplateDBSAndDBSToDLS
'Version 1.0
Dim PVT As Single = 0
Dim prevClose As Single
Dim close As Single
Dim prevVolume As Single
Dim volume As Single

Public Overrides Sub calculate()
'-----
' This file is part of the Blocks Code Library.
```

```
'
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' IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A
' PARTICULAR PURPOSE.
'
' For the source code and more information on this block go to
' kb.worden.com And search for "Price and Volume Trend."
'-----

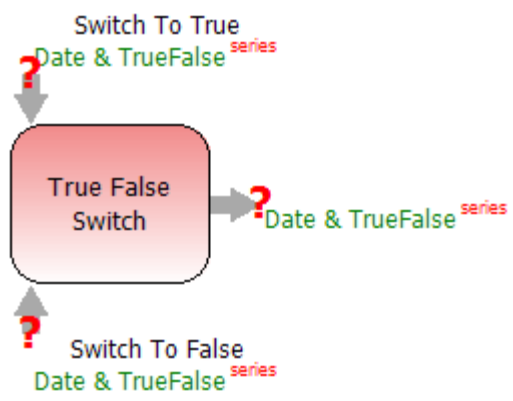
prevClose = Me.CodeBlock.Input1Last(0)
If prevClose = 0 Then prevClose = 1

For i As Integer = 1 To Me.CodeBlock.InputCount - 1
    close = Me.CodeBlock.Input1Last(i)
    PVT = PVT +(((close- prevClose)/prevClose)* Me.CodeBlock.Input2Last(i))

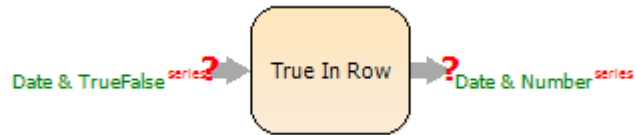
    Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), PVT)

    prevClose = close
Next
End Sub
End Class
```

True False Switch

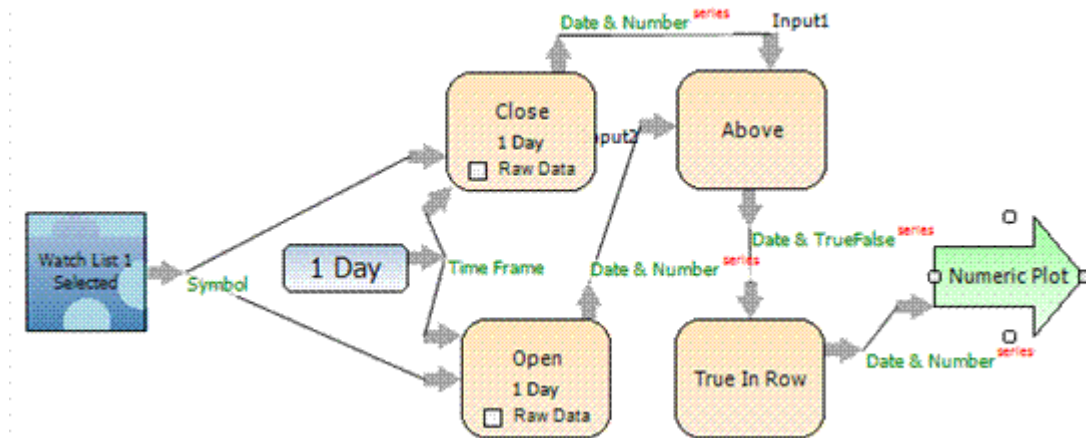


True In Row



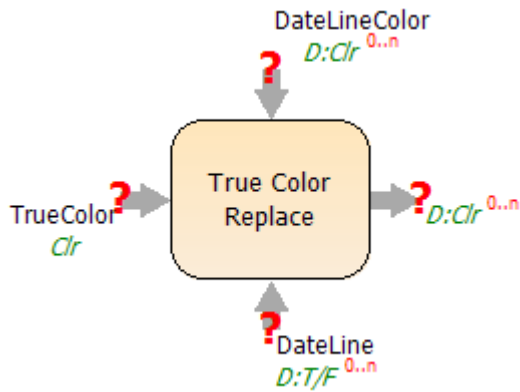
Description

Counts the number of points in a row on the line provided that are true.



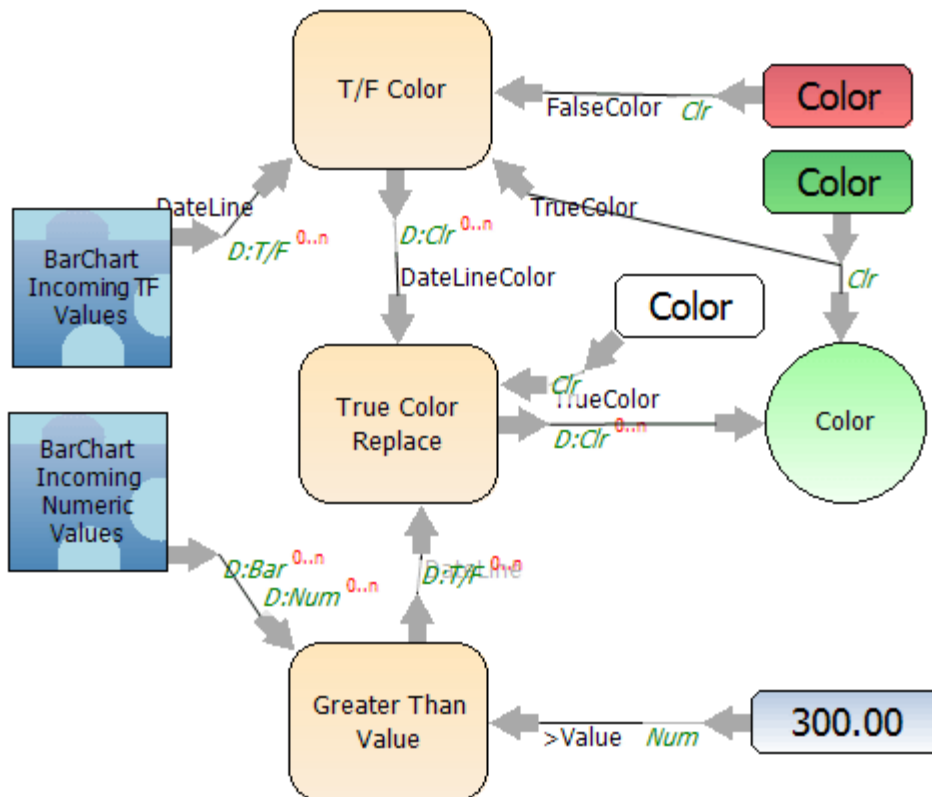
In the above example the line drawn on the chart represents the number of Trues in a row. In this example, a True condition occurs when the daily Close price is greater than the daily Open Price. For instance, if the Close was greater than the Open for the last 4 points the True In Row block would return 4.

True Color Replace



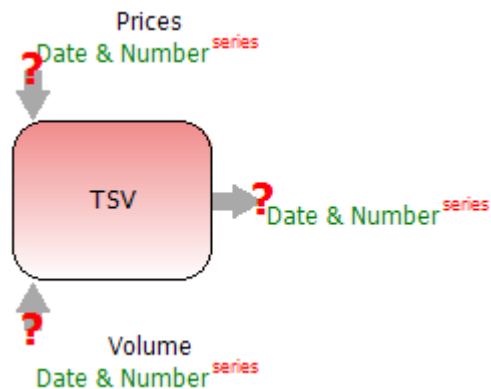
Description

Replaces the incoming color line with a different color when the incoming True/False line is True.



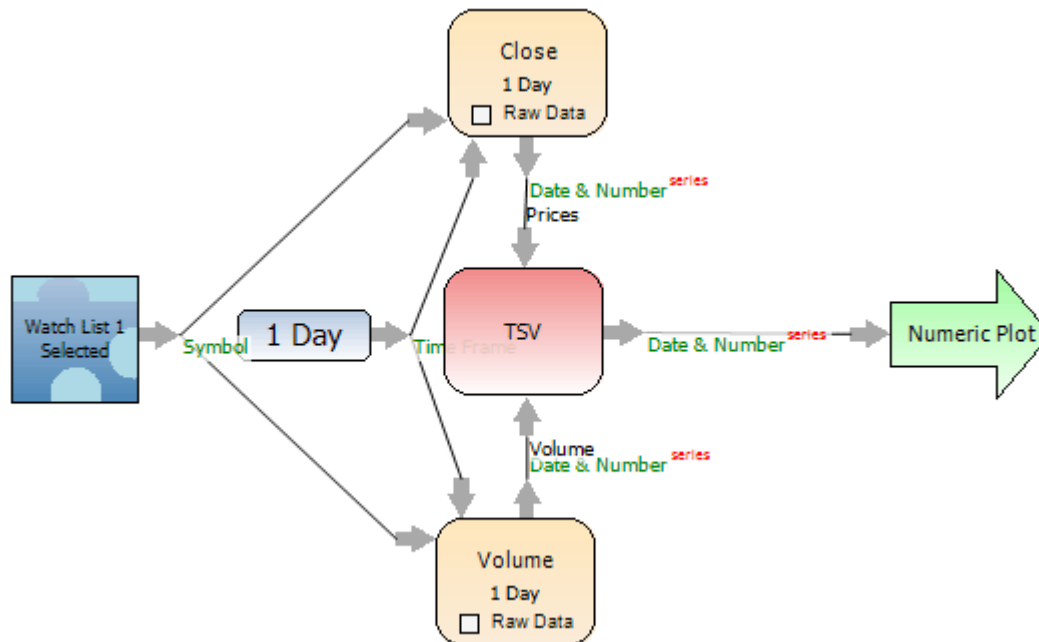
In the above example, the incoming True/False line from the Greater Than Value block is changing the color of the incoming color line from T/F Color block to white anytime that the incoming numeric values are greater than 300.

TSV



Description

Returns Time Segmented Volume (TSV) for the Volume and Prices Provided.



The above example draws a line on a chart that is the TSV of daily Price and Volume for the selected WatchList Symbol.

Time Segmented Volume (TSV)

A proprietary technical indicator developed by Worden Brothers, Inc. TSV is an oscillator, which is calculated by comparing various time segments of both price and volume. TSV essentially measures the amount of money flowing in or out of a particular stock. The horizontal line in the middle, which extends across the entire length of the indicator window, represents the zero line. When TSV crosses up through the zero line it signals positive accumulation or buying pressure. This action is considered bullish. Conversely, when TSV crosses below the zero line it indicates distribution or selling pressure, which typically precedes a move down in price.

Another important thing to look for when interpreting TSV is a contradiction of trends between price and TSV. Look for positive or negative divergences between price and TSV in order to determine potential tops

and bottoms. Several consecutive divergences increase the reliability factor in trying to pinpoint price reversals. For instance, if price has been making successively higher highs while TSV has been making successively lower highs, this would constitute a series of negative divergences. This would be an indication of a possible top.

TeleChart gives you the ability to calculate a TSV on a wide variety of moving averages, which simply allows you to smooth the indicator, thereby filtering out the less significant swings. You will notice that as you increase the value of the moving average (and this applies to any indicator, not just TSV) the result is a smoothing effect. However, there is a trade-off. As you increase the length of the moving average, the indicator becomes less sensitive to daily fluctuations. And as a result, the indicator will have a greater tendency to lag price.

One of the new features of this indicator is the ability to calculate a moving average of another moving average. This addition has made TSV more effective and easier to use. Now you can calculate a moving average of an already smoothed TSV and use it much in the same way the MACD indicator is used. Positive and negative TSV crossovers are one more thing to consider when trying to form an opinion on a particular stock or market index.

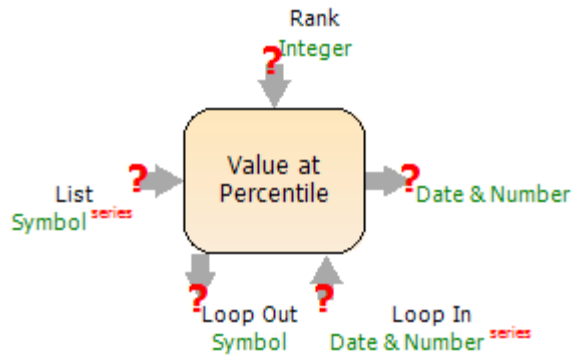
Example Settings:

Short Term Trading: TSV period between 9 and 12

Intermediate Term Trading: TSV period between 18 and 25

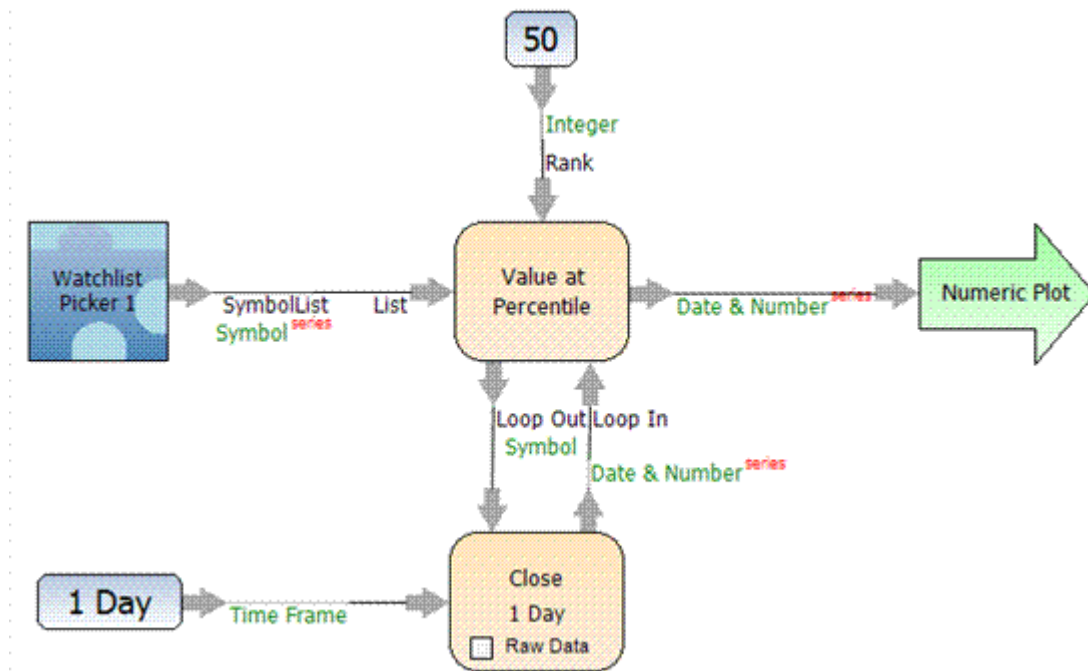
Long Term Trading: TSV period between 35 and 45

Value at Percentile



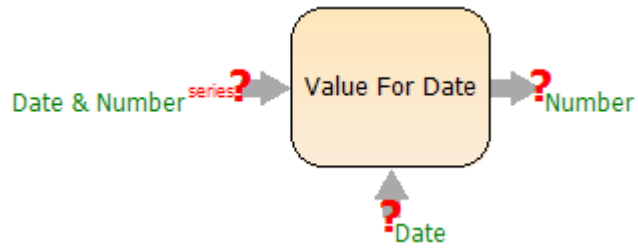
Description

Displays the value for the given percentile Rank for the list provided.



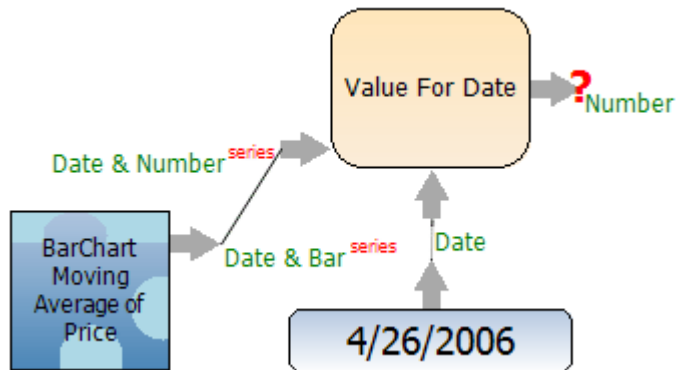
The above example draws a line on a chart that represents the value at the 50th percentile of the daily Close prices for the SymbolList provided.

Value For Date



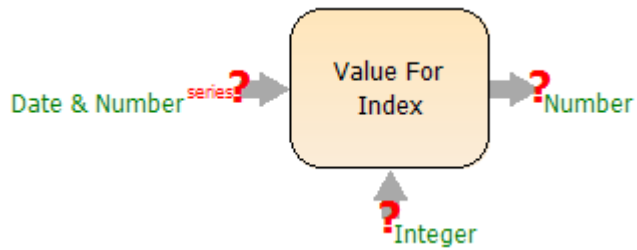
Description

Returns the value for the Date provided.



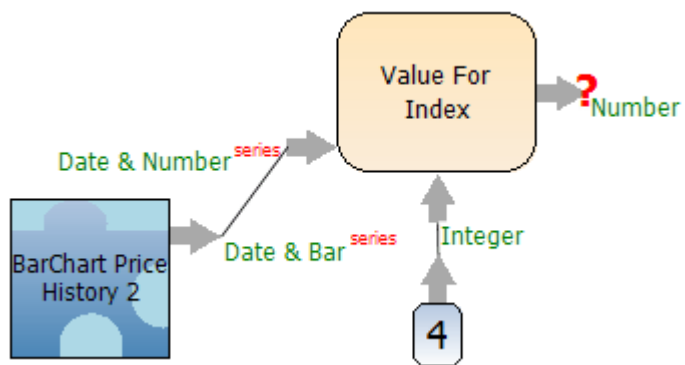
The above example returns the value for the date April 26, 2006 from the provided moving average line.

Value For Index



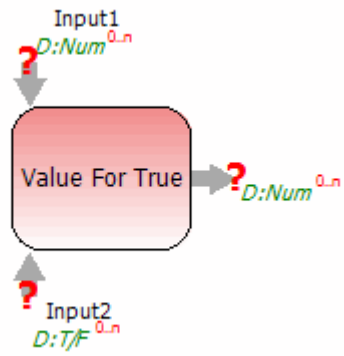
Description

Returns the value for the specified zero-based index. Since the index is zero-based, if you were to ask for the value at index 4 it would return the 5th value.



The Above example returns the value at index 4 which is the fifth value in the incoming Date & Number Series.

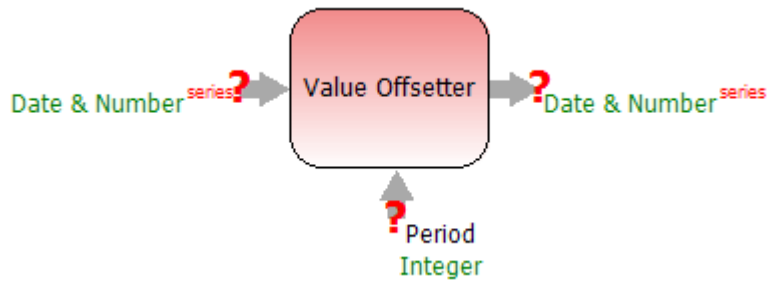
Value for True



Description

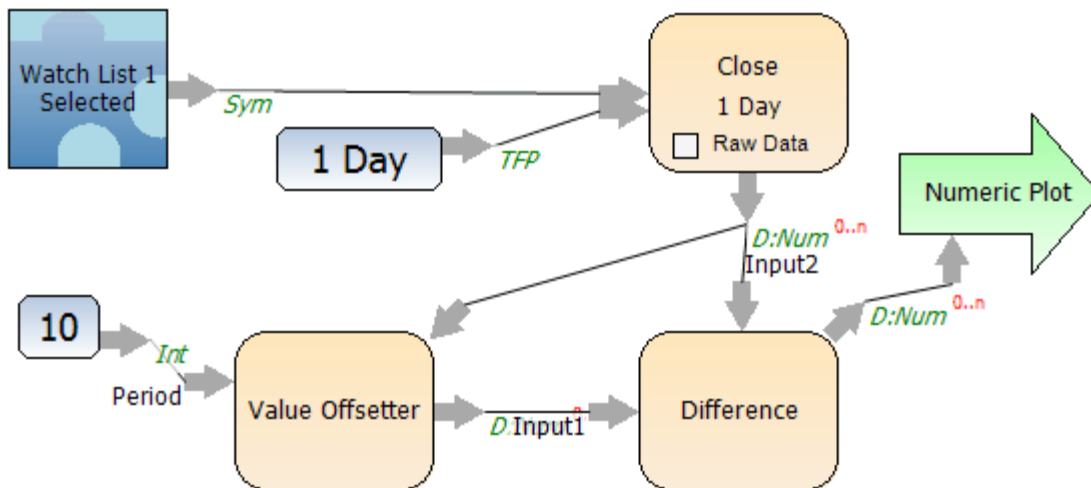
Returns the value for a given True. Takes in date/number series and a Date/TrueFalse series, and returns the value from the date/number series for each date that is True.

Value Offsetter



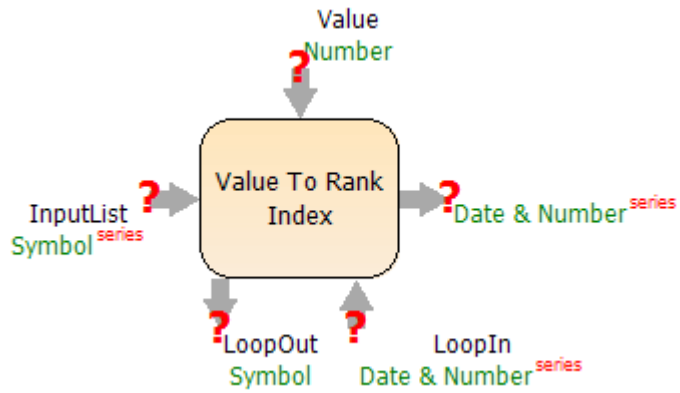
Description

Provides the value of the incoming bar n-days ago where n is equal to the period provided. This block is no longer a codeblock and therefore is not editable.



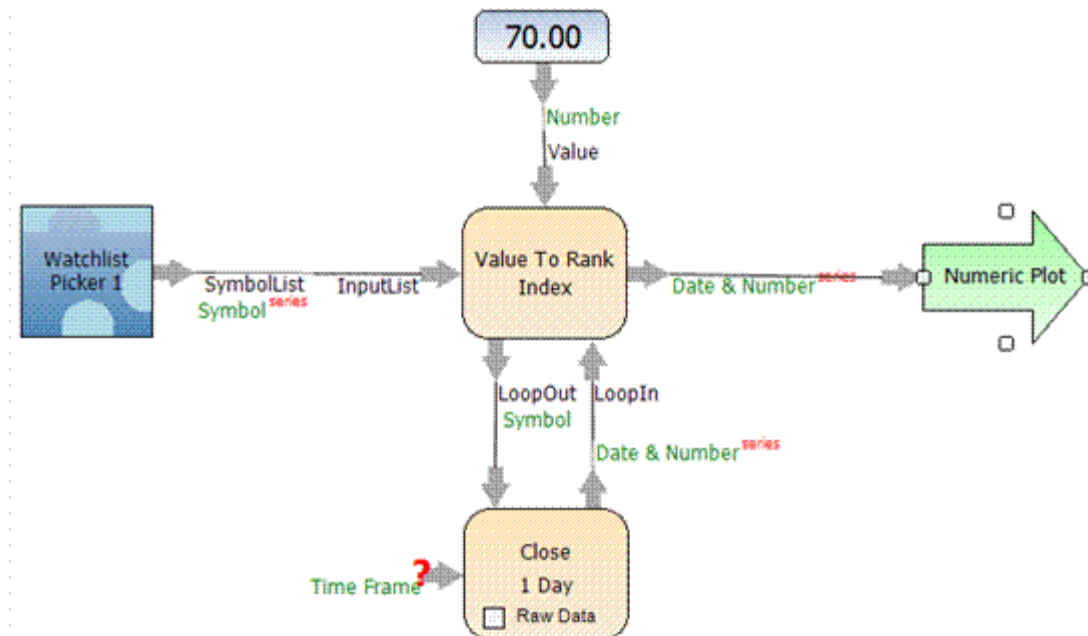
The example above plots the difference of the current Close price and the Close price 10 days ago for the selected Watch List Symbol.

Value To Rank Index



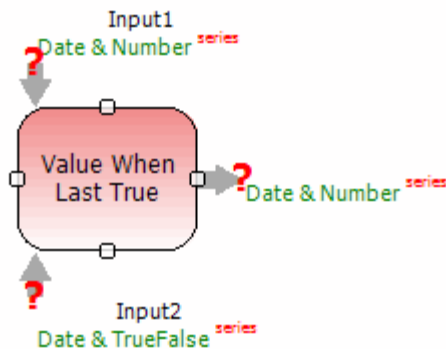
Description

Returns the Rank for a specified Value in the given InputList.



The above example returns the percentage Rank that \$30 is for the Closes of the given InputList.

Value When Last True



Description

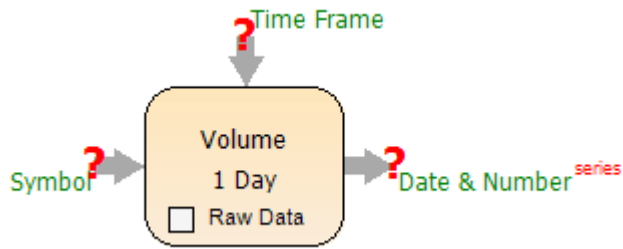
Returns the Value of Input1 the last time Input2 was True.

Source Code

```
<WBIGuid("e827c772-d66a-412f-acea-e71f6120cbea"),FriendlyName("Value When Last True")> _
Public Class Value_When_Last_True
inherits BaseTemplateDBSAndDLBToDLS
Public Overrides Sub calculate()
'-----
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'
' For the source code and more information on this block go to
' kb.worden.com And search for "Value When Last True."
'-----
Dim first As Integer = System.Math.Max(Input1FirstActualIndex, Input2FirstActualIndex)
Dim last As Integer = System.Math.Min(Input1LastActualIndex, Input2LastActualIndex)
If last >= first
Dim skip As Integer = 0
```

```
Dim value As Single
For bar As Integer = first To last
  If Input2Value(bar)
    skip = 1
    value = Input1Last(bar)
  End If
  If skip
    AddToOutput(InputDate(bar),value)
  End If
Next
End If
End Sub
End Class
```

Volume



Description

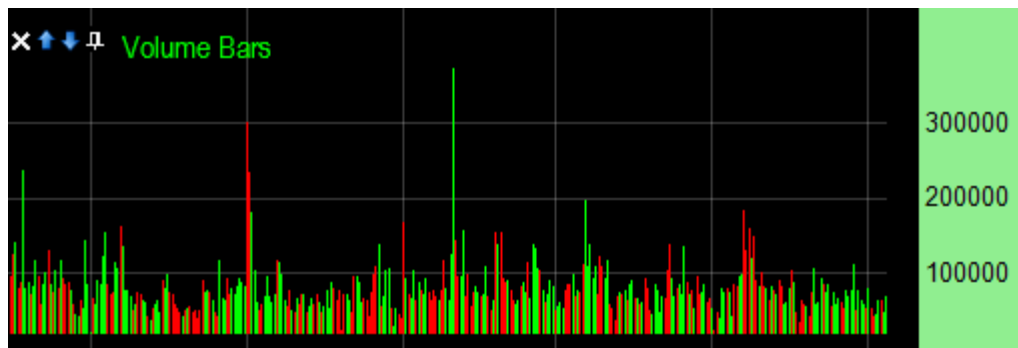
Returns Volume for the Symbol provided with the timeframe provided.

Uses:

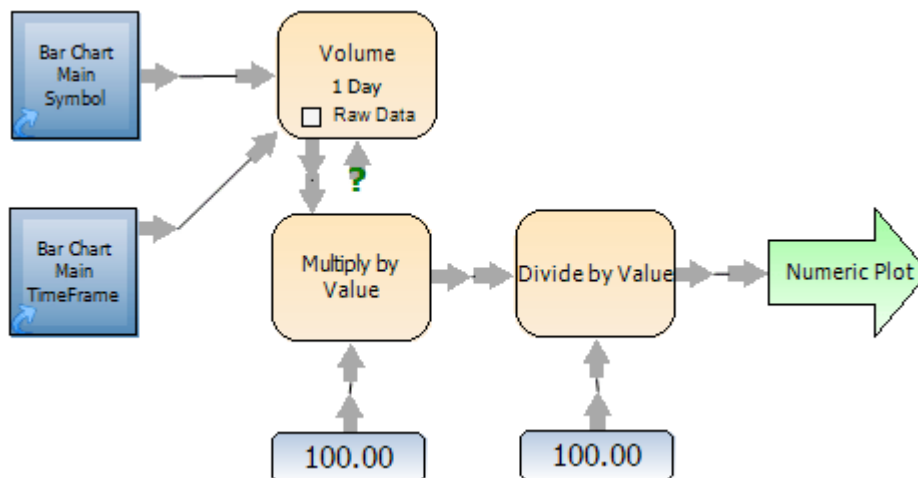
The Volume block is used to calculate the Volume indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Volume Personal Chartist Study.

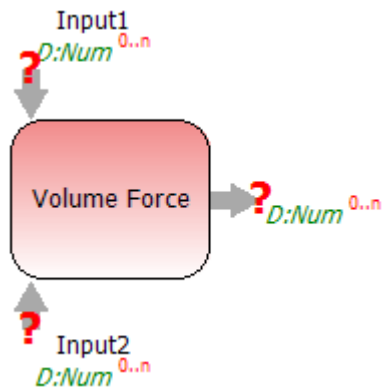


The Volume Bars plot uses the Volume block to plot the indicator.



Block diagram for the Volume Bars plot in the chart above. NOTE: The part of the block diagram pertaining to the coloring of the bars has been omitted for clarity.

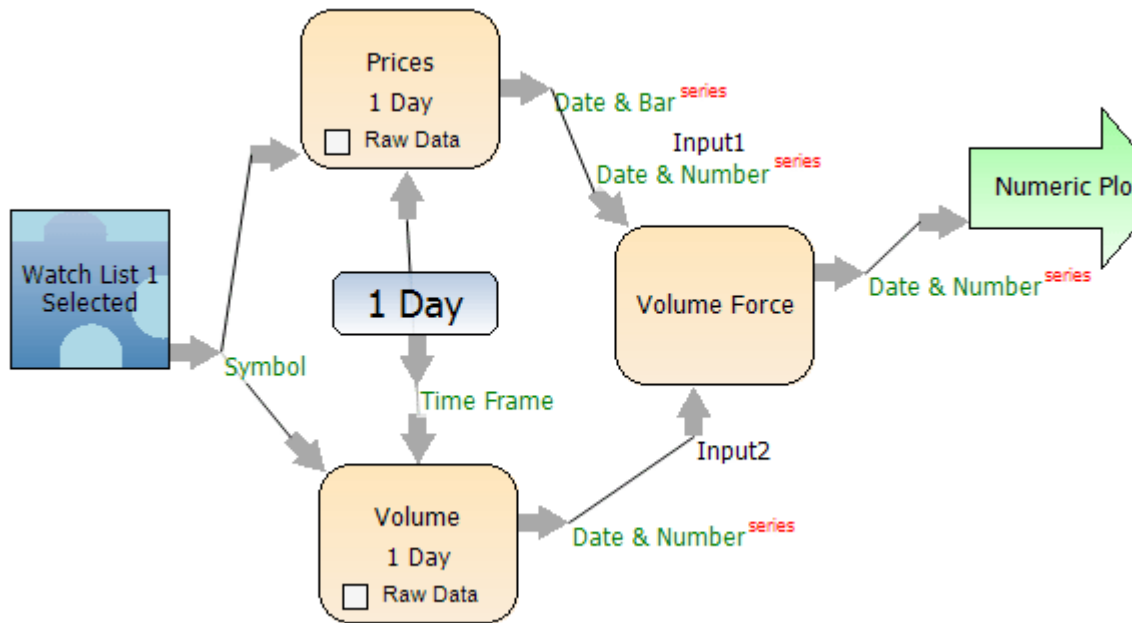
Volume Force



Description

Returns the Volume Force calculation.

See also the [Klinger Oscillator](#) indicator.



The example above plots Volume Force of the daily Prices and Volumes for the selected Watch List Symbol.

Source Code

```
<WBiGuid("621284bf-632b-43da-b166-000191a08db8"),FriendlyName("Volume Force"), _
  ClassAuthor("The Blocks Company,LLC - JK", "Returns the Volume Force calculation for the Prices (Input1)
and Volumes (Input2) provided for the period provided.", "10/18/2006")> _
Public Class VolumeForce
  inherits BaseTemplateDBSAndDBSToDLS
  'Version 1.02
  Public Overrides Sub calculate()
  '-----
  ' This file is part of the Blocks Code Library.
  '
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  '
  '-----
```

```

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,
' For the source code and more information on this block go to
' kb.worden.com And search for Volume Force."
-----

```

```

Dim currTrendDir As Boolean 'true is uptrend, false is downtrend
Dim prevTrendDir As Boolean
Dim prevSum As Single
Dim CurrSum As Single
Dim CM As Single
Dim currDM As Single
Dim prevDM As Single
Dim T As Integer

'calculate first date's trend value
Dim firstIndex As Single = System.Math.Max(Input1FirstActualIndex, Input2FirstActualIndex)

prevSum = Input1High(firstIndex) + Input1Low(firstIndex) + Input1Last(firstIndex)

currSum = Input1High(firstIndex + 1) + Input1Low(firstIndex + 1) + Input1Last(firstIndex + 1)

prevDM = Input1High(firstIndex) - Input1Low(firstIndex)

If currSum > prevSum Then
    prevTrendDir = True
Else
    prevTrendDir = False
End If

For i As Integer = firstIndex + 2 To System.Math.Min(Input1LastActualIndex, Input2LastActualIndex)

    currSum = Input1High(i) + Input1Low(i) + Input1Last(i)
    currDM = Input1High(i) - Input1Low(i)

    If currSum >= prevSum Then
        currTrendDir = True
    Else
        currTrendDir = False
    End If

    'figure out if we are changing trend or not and then accumulate appropriately
    If currTrendDir And prevTrendDir Then

        CM += currDM

    ElseIf currTrendDir And prevTrendDir = False Then

        CM = prevDM + currDM

```

```
ElseIf currTrendDir = False And prevTrendDir Then

    CM = prevDM + currDM

ElseIf currTrendDir = False And prevTrendDir = False Then

    CM += currDM

End If
'change bool to +1 or -1 for calculation
If currTrendDir Then
    t = 1
Else
    t = -1
End If

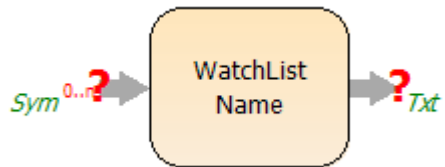
If CM = 0 Then CM = 1

AddToOutput(InputDate(i), Input2Last(i)* system.Math.Abs(2*(currDM/CM)-1) * t *100)

prevSum = currSum
prevTrendDir = currTrendDir
prevDm = currDM
Next

    End Sub
End Class
```

WatchList Name



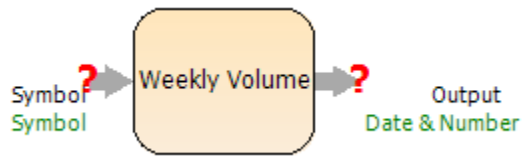
Description

Provides the WatchList name for the SymbolList provided.



The above example displays the selected WatchList's name in a Chart legend.

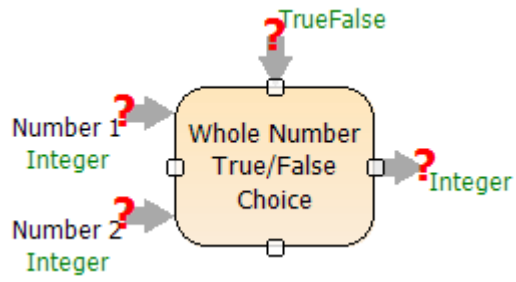
Weekly Volume



Description

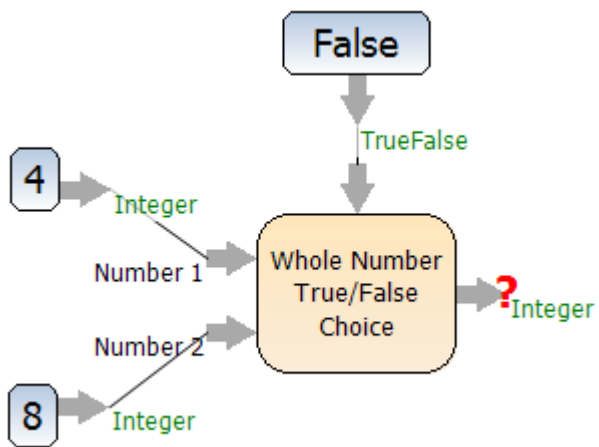
Returns Weekly Volume for the Symbol provided.

Whole Number True/False Choice



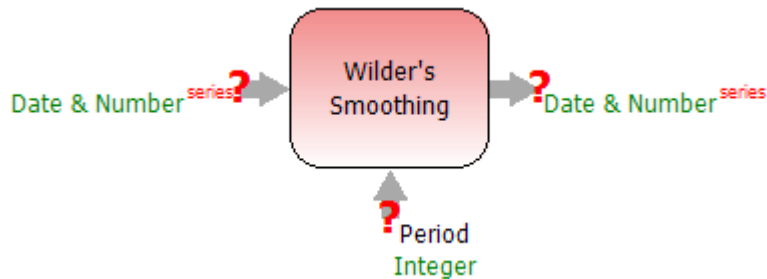
Description

Returns Number 1 when True and Number 2 When False.



The above example returns 8 because the True/False input is set to False.

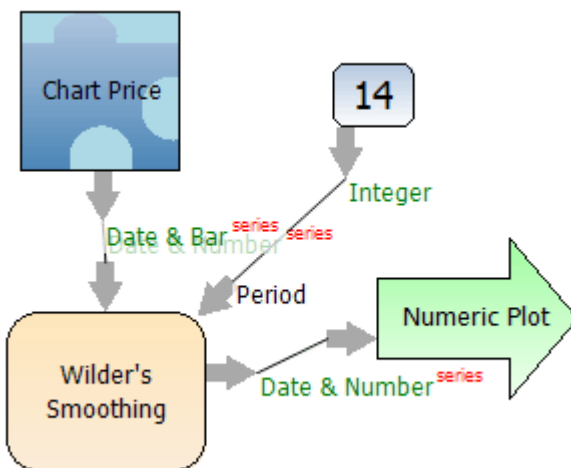
Wilder's Smoothing



Description

Returns Wilder's Smoothing for the period provided.

See also the [Wilder's Smoothing](#) indicator.



The example above plots a 14-period Wilder's Smoothing of the prices provided.

Source Code

```
<WBIGuid("6720f29c-ed42-4138-b807-1d55e1c4967d"),FriendlyName("Wilder's Smoothing"), _  
ClassAuthor("The Blocks Company,LLC - JK", "Returns Wilder's Smoothing for the period provided.",  
"10/18/2006")> _  
Public Class WildersSmoothing  
inherits BaseTemplateDLStoDLSPeriod  
'Version 1.01  
Public Overrides Sub calculate()  
'-----  
' This file is part of the Blocks Code Library.  
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' For the source code and more information on this block go to
' kb.worden.com And search for "Wilder's Smoothing."

' Changes

' 1.02 - Added If inputcount < 2 Then Exit Sub

If inputcount < 2 Then Exit Sub

Dim sumOfCloses As Single = 0
Dim avgOfPeriod As Single = 0
Dim sumOfDeviations As Single = 0
Dim PrevMA As Single = 0

Dim Period As Integer = Me.CodeBlock.ParameterValue
If Period < 1 Then Period = 1
if Period > me.CodeBlock.InputCount - 2 then Period = me.CodeBlock.InputCount - 2

'count up the values for first period calc
For i As Integer = 0 To Period - 1
sumofCloses+=Me.CodeBlock.InputValue(i)
Next
PrevMA = sumofCloses/Period

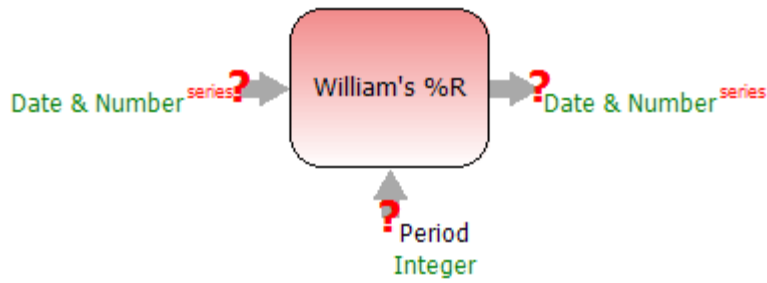
For i As Integer = Period To Me.CodeBlock.InputCount - 1

Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), _
prevMA +((Me.CodeBlock.InputValue(i) - PrevMA)/Me.CodeBlock.ParameterValue))

prevMA = prevMA +((Me.CodeBlock.InputValue(i) - PrevMA)/Me.CodeBlock.ParameterValue)

Next
End Sub
End Class

Williams %R



Description

Returns the Williams %R indicator for the period provided.

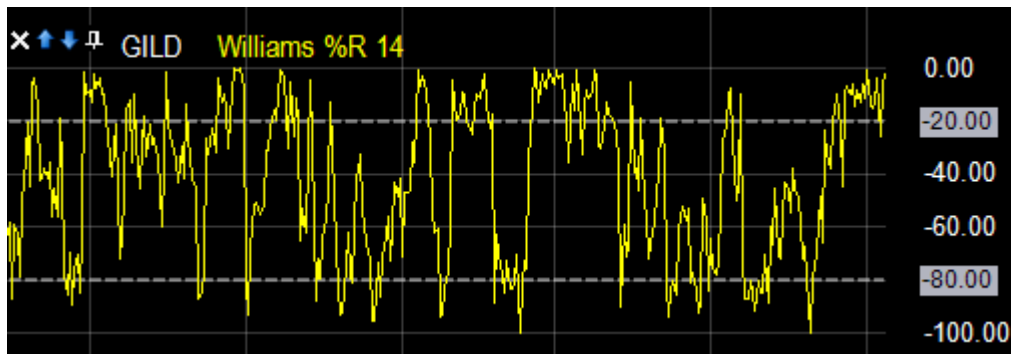
See also the [Williams %R](#) indicators.

Uses:

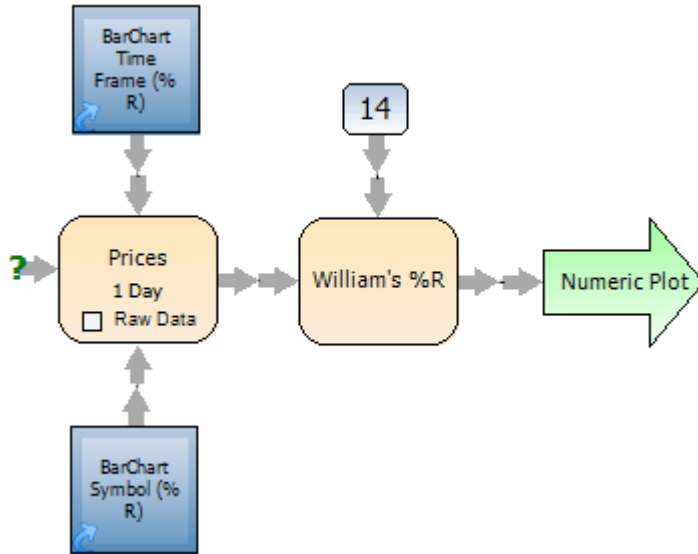
The William's %R block is used to calculate the William's %R indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the William's %R Personal Chartist Study.



The Williams %R 14 plot uses the William's %R block to plot the indicator.



Block diagram for the Williams %R 14 plot in the chart above.

Source Code

```

<WBIGuid("6b78dc4c-e9f8-4a41-b2d2-917b52abb118"),FriendlyName("William's
%R"), _
ClassAuthor("The Blocks Company,LLC - JK", "Provides the Williams %R indicator
for the period provided.", "10/17/2006")> _
Public Class WilliamsPercentR
Inherits BaseDLBtoDLSPeriod
'Version 1.01
Public Overrides Sub calculate()
'-----
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'
' For the source code and more information on this block go to
' kb.worden.com And search for "William's %R."
  
```

```

' Changes
' 1.02 - Added If inputcount < 2 Then Exit Sub
'-----
If inputcount < 2 Then Exit Sub

Dim periodHigh As Single
Dim periodLow As Single
Dim sumOfNetChanges As Single
Dim Period As Integer = Me.CodeBlock.ParameterValue

If Period < 1 Then Period = 1
If Period > inputcount - 2 Then Period = inputcount - 2

'count up initial netchanges
For i As Integer = 1 To Period - 1
    sumOfNetChanges += system.Math.Abs(Me.CodeBlock.InputValue(i) - Me.CodeBlock.InputValue(i-
1))
Next

For i As Integer = Period To Me.CodeBlock.InputCount - 1
    periodHigh = 0
    periodLow = Me.CodeBlock.InputLow(i)

'find the highest high and lowest low for period
For y As Integer = (i - (Period - 1)) To i
    If Me.CodeBlock.InputHigh(y) > periodHigh Then
        periodHigh = Me.CodeBlock.InputHigh(y)
    End If

    If Me.CodeBlock.InputLow(y) < periodLow Then
        periodLow = Me.CodeBlock.InputLow(y)
    End If

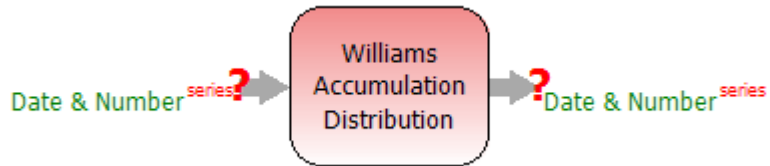
Next

If periodHigh - periodLow <>0 Then
    Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), _
        ((periodHigh-Me.CodeBlock.InputLast(I))/(periodHigh-PeriodLow))*-100)
Else
    Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), _
        (periodHigh-Me.CodeBlock.InputLast(I))*-100)
End If

Next
End Sub
End Class

```

Williams Accumulation Distribution



Description

Returns the Williams Accumulation Distribution indicator.

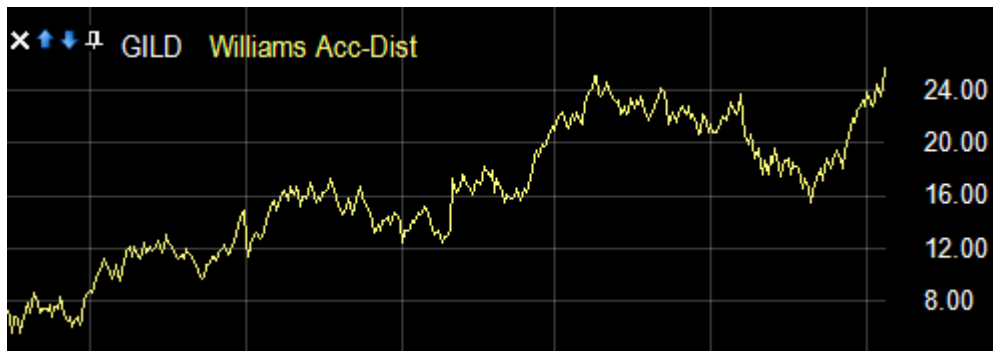
See also the [Williams Accumulation Distribution](#) indicator.

Uses:

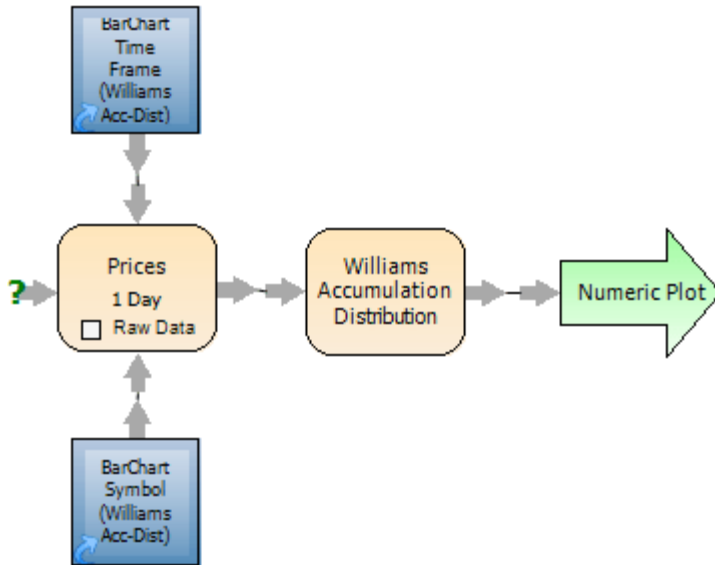
The Williams Accumulation Distribution block is used to calculate the Williams Accumulation Distribution indicator for use in studies and strategies as well as tools within blocks including data displays and columns.

Example:

The following example is the Williams Acc-Dist Personal Chartist Study.



The Williams Acc-Dist plot uses the Williams Accumulation Distribution block to plot the indicator.



Block diagram for the Williams Acc-Dist plot in the chart above.

Source Code

```

<WBIGuid("dacb16df-9c24-445a-b761-3ea8fed09d06"),FriendlyName("Williams Accumulation
Distribution"), _
ClassAuthor("The Blocks Company,LLC", "Returns the Williams Accumulation Distribution.",
"10/18/2006")> _

```

```

Public Class WilliamsAccumulationDistribution
inherits BaseTemplateDLBToDLS

```

```
'Version 1.01
```

```
Public Overrides Sub calculate()
```

```
-----
```

```
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```

```
' For the source code and more information on this block go to
' kb.worden.com And search for "Williams Accumulation Distribution."
```

```
-----
Dim TRH As Single
Dim TRL As Single
Dim williamsAD As Single = 0
```

```
Dim close As Single
Dim yclose As Single

yclose = Me.CodeBlock.InputLast(0)
For i As Integer = 1 To Me.CodeBlock.InputCount - 1
    close = Me.CodeBlock.InputLast(i)

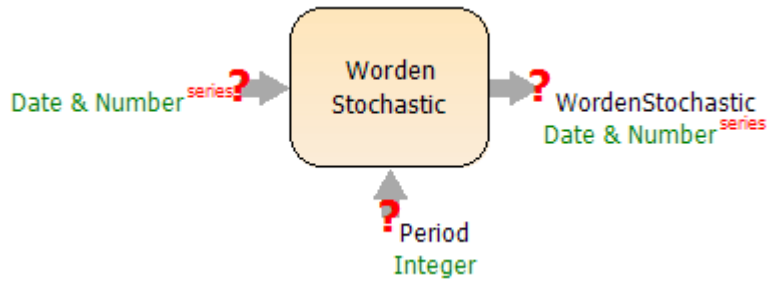
    If close > yclose Then
        TRL = system.Math.Min(yclose, Me.CodeBlock.InputLow(i))
        williamsAD += close - TRL
    End If

    If close < yclose Then
        TRH = system.Math.Max(yclose, Me.CodeBlock.InputHigh(i))
        williamsAD += close - TRH
    End If

    Me.CodeBlock.AddToOutput(Me.CodeBlock.InputDate(i), williamsAD)
    yclose = close
Next

End Sub
End Class
```

Worden Stochastic Block



Description

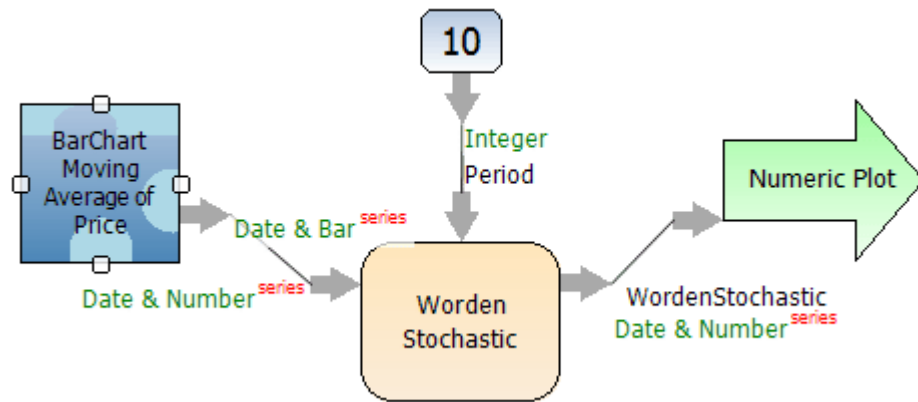
Worden Stochastic is a variation on a traditional Stochastic. Whereas a traditional Stochastic assigns a percentage value to each price in the period based on where it falls in the trading range for the period, the Worden Stochastic assigns a specific ranking to each value in the period. The example below illustrates how a percentage range and a percentage rank would compare for a 5-period regular Stochastic and Worden Stochastic with the values 1, 2, 3.5, 5 and 7:

Percentage Rank	Percentage Range
1 - 0%	0%
2 - 25%	16.7%
3.5 - 50%	41.7%
5 - 75%	66.7%
7 - 100%	100%

Since Worden Stochastics assigns a rank instead of a range value, it recovers much quicker from extreme price movements followed by laterally moving prices. The net effect is that extreme price movements have a shorter and less pronounced overall effect on the indicator.

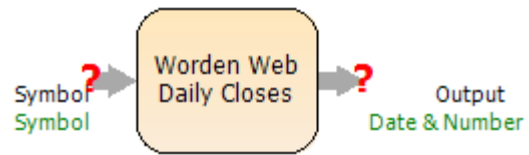


As a result of the extreme downward price movement, a normal Stochastic gets stuck in an oversold condition longer than a Worden Stochastic. A normal Stochastic is also slower to recover to an overbought condition after an extreme price movement.



The above example plots a 10-period Worden Stochastic of the provided moving average of Price.

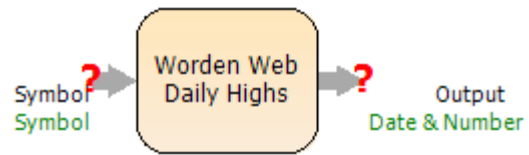
Worden Web Daily Closes



Description

Returns Daily Close prices for the supplied Symbol.

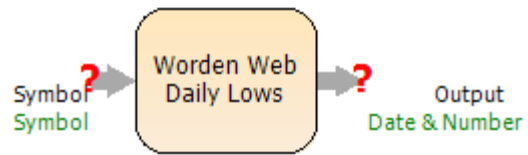
Worden Web Daily Highs



Description

Returns Daily High prices for the supplied Symbol.

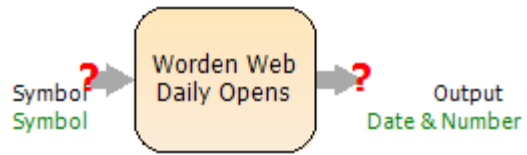
Worden Web Daily Lows



Description

Returns Daily Low prices for the supplied Symbol.

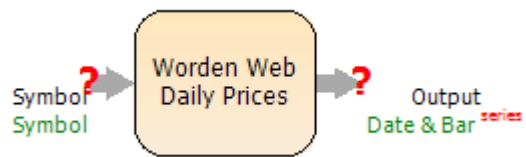
Worden Web Daily Opens



Description

Returns Daily Open prices for the supplied Symbol.

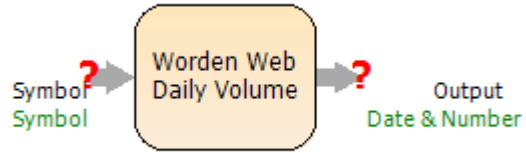
Worden Web Daily Prices



Description

Returns Daily Price Bars for the supplied Symbol.

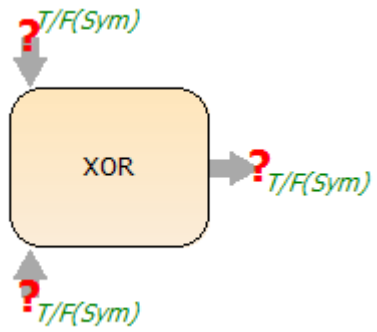
Worden Web Daily Volume



Description

Returns Daily Volume for the supplied symbol

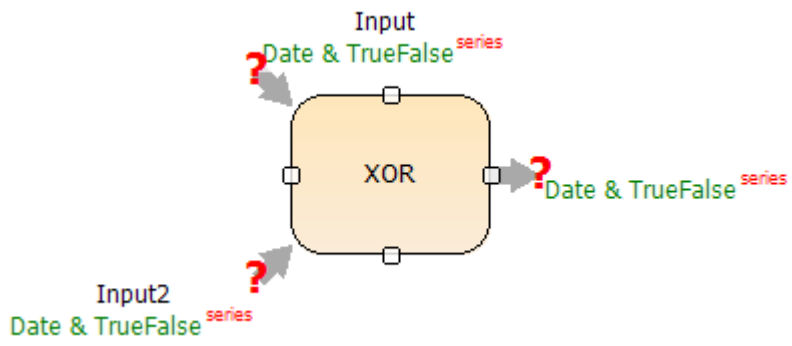
XOR (T/F(Sym))



Description

The XOR Block returns true if Input1 does not equal Input2, otherwise it returns false.

XOR (Date & TrueFalse Series)



Description

Returns True if exactly one inline is true.