The Stockopedia Charts Guide

Learn how to create, annotate, save & share your own technical analysis studies.

Stockopedia

The Stockopedia Charts Guide

Edward Page Croft and Ben Hobson

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Introduction

A subscription to Stockopedia.com includes one of the most powerful and accessible charting and technical analysis packages on the web. In this Guide we'll explain how you can use it to make better investment decisions.

The main charting interface which is composed of several main components - a top toolbar, main chart window, technical indicator windows, and bottom toolbar.
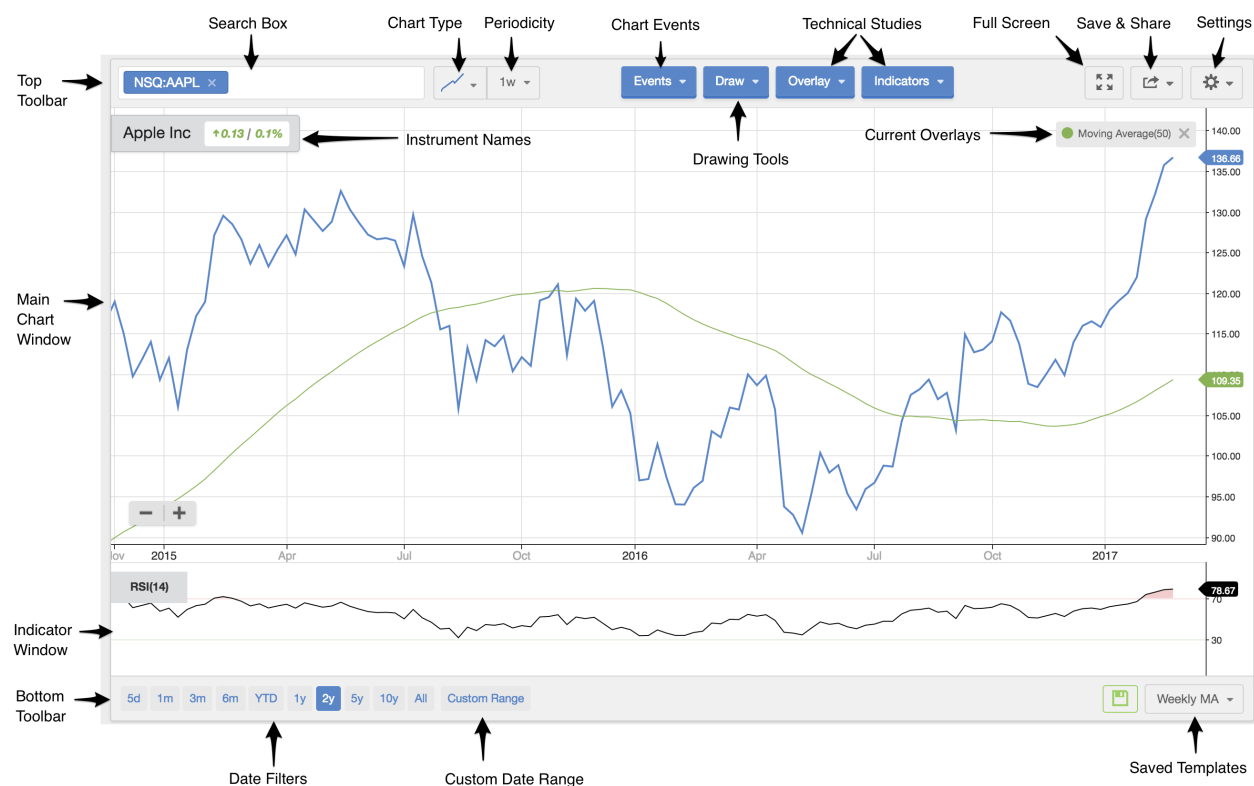
We'll be covering all of the labelled items and menu items in the following articles but they are all designed to be very intuitive. We do recommend learning by doing... go ahead and play around with each menu item. You'll soon find your way around without having to read every article in the Guide. There are though, lots of subtle features which extra study of these pages will uncover.

After reading the following sections you will understand:

- How to load shares and navigate the Chart View.
- How to change the type and timeframe of any Chart.

- How to compare the performance of multiple shares on a single chart.
- How to add technical analysis studies as overlays and indicators to any Chart to help predict future share price movements.
- How to add company events and personal portfolio transactions as flags on any share chart.
- How to add personal annotations, drawings, lines and shapes to any chart.
- How to save your favourite chart settings as "Saved Templates" for future use.

Exploring the Charts

The following section explores all aspects of the Stockopedia Charting Interface.

Search & Comparisons

At the top of the chart is a search box that allows you to search for any of tens of thousands of securities using the name or ticker of one or more shares, indices, ETFs or Trusts.

The search results are returned in a dropdown menu which can be further filtered by security type using the horizontal tabs. The tabs allow the search results to be filtered as "All" securities, "Stocks", "Indices", "ETFs" or "Trusts" - which also include all closed end funds.
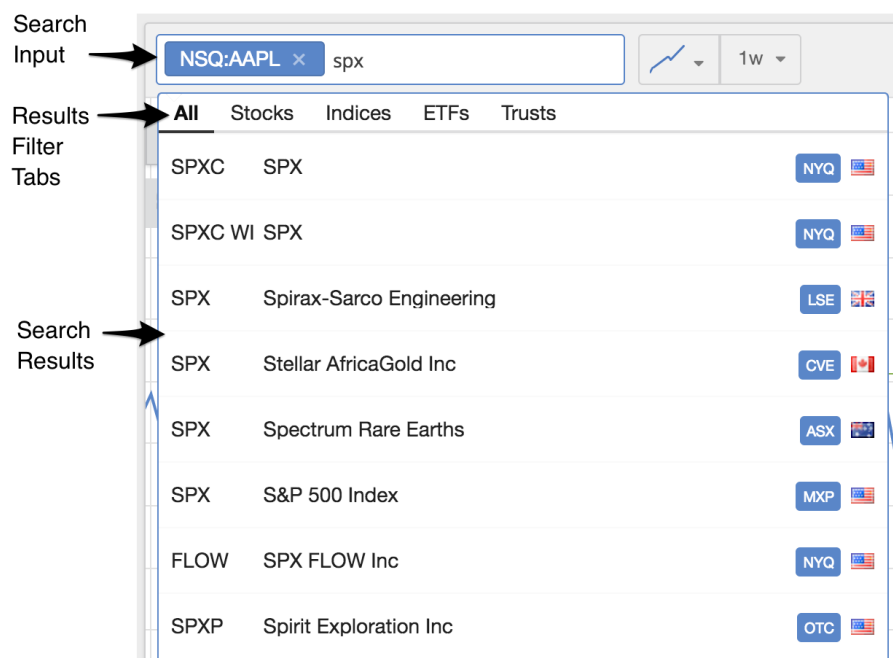
You can either use the up and down keys to navigate the list of securities returned in the dropdown menu and hit enter to select, or use your mouse to click on any of the items. Once selected the chart will immediately load the price histories of the share as a time series.

Comparisons - adding multiple stocks

The Search box is a multiple search entry box. You can keep searching for and adding as many securities as you like to the main chart.

The Chart axis type will convert into a percentage axis once 2 or more instruments are added so that you can compare the relative performance over any timeframe.

Do note that your browser responsiveness may decline with the more instruments you add, so don't go too crazy.

Removing Securities from the Search Box

Removing securities from the search box can be done either by clicking the delete or backspace key in the search box, or by clicking the 'X' on each item.
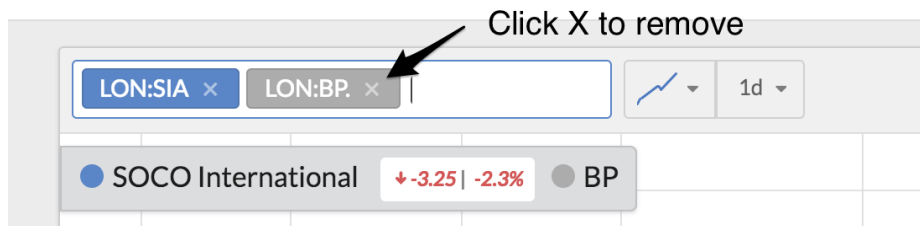
Changing the colour of a line

There is a default colour series for all comparison charts. By default the first extra added instrument is coloured as a subtle grey line, but this can be changed.

As long as the "Names" option is added in the main chart settings, you can click the coloured circle and select another colour from the tooltip menu:
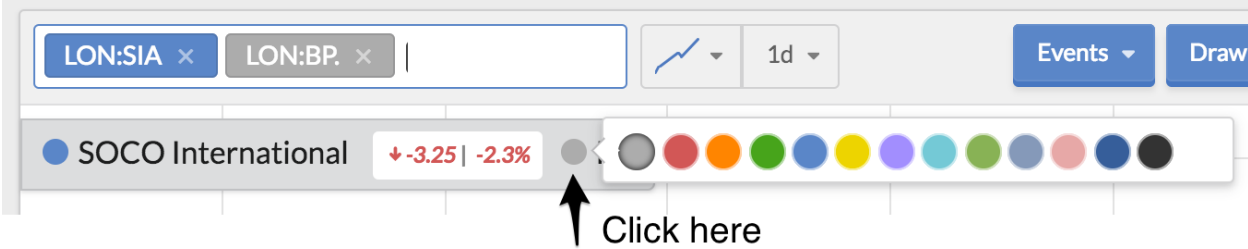
Timeframes & Periodicity

Charts are all about the price histories of securities and projections to the future, which makes **time** a first class citizen in charts. Stockopedia Charts provide a range of easy to use features that allow quick date navigation on any device, using a mouse, fingers or the keyboard.

Periodicity

Firstly, the periodicity menu in the top toolbar allows you to control the length of each price unit to either daily, weekly or monthly bars. Daily bars can be viewed at up to 5 years of timeframe, beyond which it's best to select either weekly or monthly bars.
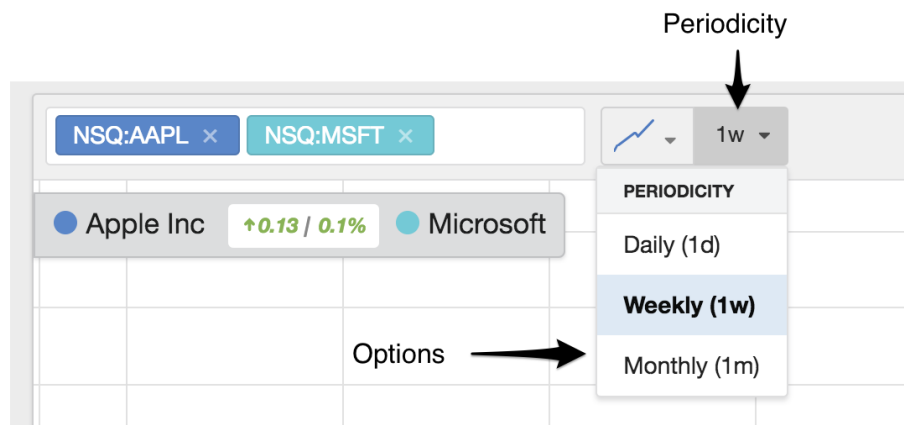
Timeframes

The easiest way to select a timeframe for the chart is by using the menu items in the bottom toolbar. These provide one-click options to zoom in or out to view time ranges from days to years for any security.

Timeframe Selector

There's also the ability to use a **Custom Date Range** to select a timeframe of your choice. Click the option and you'll see two calendars pop-up side-by-side. You can either add the dates by hand using the text boxes at the top, or use the arrow keys to move forwards and backwards to the date of choice. Click a date first in the left calendar and then in the second calendar to select the time period. Click "Apply" to set the dates in the Main Chart Window.
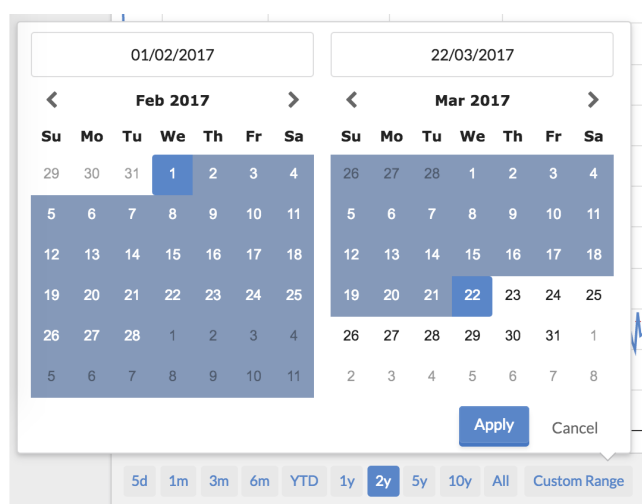
Mouse & Multi-touch Gesture Control

Charts are very easily navigated using click and drag (with a mouse) or with multi-touch gestures (on a trackpad, or touch enabled tablet). This is an essential usability addition.

Mouse Control On the main chart interface: - Click and drag left or right to move forwards or backwards in time. - Click and drag up or down to move up or down the vertical axis.

Hover over the date axis, the mouse pointer will change its icon: - Click and drag left to zoom out in time. - Click and drag right to zoom in in time.

Hover over the vertical price axis, the mouse pointer will change its icon: - Click and drag down to expand the axis and narrow the price chart in size. - Click and drag up to contract the axis and expand the price chart in size.

Multi-touch Gesture Control On the main chart interface: - swipe up with 2 fingers to zoom in. - swipe down with 2 fingers to zoom out. - swipe left with 2 fingers to go forwards in time. - swipe right with 2 fingers to go back in time. - Pinch to zoom in. - Unpinch to zoom out.

Chart Types

By default, the Stockopedia charts are presented as standard Line charts, which plot the closing price of each day and join these points into a single line. This is the basic tool for analysing price trends and momentum. You can change the type of the chart by using the first menu next to the search box.
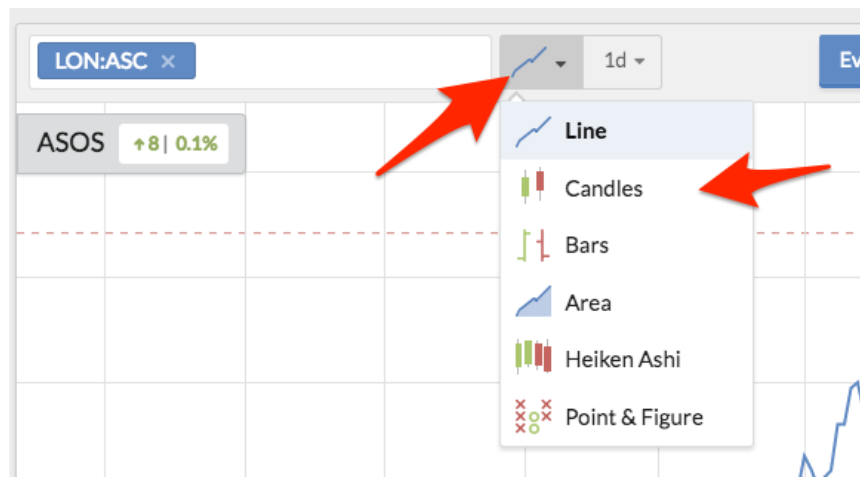
We provide an array of chart types including:

- Line Charts
- Candlestick Charts
- Bar Charts
- Area Charts
- Heikin Ashi Charts
- Point & Figure Charts

Some of these will be familiar to many investors, while others may be less so.

Chart Type Basics

It's important to understand the components of a price chart. Most charts are composed of a time series of price 'bars'. Each bar, or unit, of pricing information will have 6 components which include the date, price and volume that define the period...

- the date (or time) of the trading period

- the opening or first price of the period (O)
- the highest price reached during the period (H)
- the lowest price reached during the period (L)
- the closing (or last price) of the period (C)
- the volume of shares traded during the period (V)

These components are used differently by different chart types, but are the common underlying unit. Price Bars such as this are often summarised as OHLCV data.

Understanding this, here follows a quick description of each main Chart Type:

Line Charts

Line charts are the default on Stockopedia. They join up each day's **closing** price into a continuous line - closing prices being the most important price of each day. They are the simplest chart type and often popular with investors due to their simplicity.

Candlestick Charts

Candlestick charts - use the full OHLC data. Candlesticks are an old Japanese invention that help investors more clearly visualise a day's trading.

There are two parts to a Candle.

- The first part is a thin vertical line (often called the wick or shadow) which shows the range through which a stock's price has travelled on a trading day. The upper end of the wick shows the high price, while the lower end shows the low price.
- The second part is a filled rectangular body which is green if the stock price closed higher than the previous day, or red if it closed lower than the previous day.

The colour coding makes it easier to spot price trends, while the length of the candle can be an indicator of volatility.

Some notes:

• Days where the close price is higher than the open price are marked as a coloured green rectangular body. • Days where the close price is lower than the open price are marked as a coloured red rectangular body. • The upper line extends vertically from the body when the high price is higher than the highest of the open or close price. This is known as the upper shadow. • The lower line extends vertically down from the body when the low price is lower than the lowest of the open or close. This is known as the lower shadow.

There are entire books written on Candlestick charting with the most famous being Japanese Candlestick Charts by Steve Nison[1].

Bars

Often known as 'OHLC' charts, these are a simpler representation of the same data in Candlestick charts. Bars work very much like Candles in that they're designed to show the daily open and close price - shown in the left and right horizontal bars - as well as the price range of a stock on a given day - shown in the vertical bar.

Like Candles, the bars are green if the stock price closed higher than the previous day, or red if it closed lower than the previous day. This makes it easy to see the range of price movement in a stock on a daily basis over any given period of time.

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[1]https://www.amazon.co.uk/Japanese-Candlestick-Charting-Techniques-Contemporary/dp/0735201811/

Area

Often called "Mountain" charts, Area charts are a more simplified interpretation of standard Line charts. They plot closing prices over a given period, and the area beneath the line is shaded.

Heikin Ashi

Heikin Ashi charts are a variation on conventional Candlestick charts. In both cases, the daily 'sticks' are calculated using OHLC price data. But with Heikin Ashi, the formula is a bit more complicated.

It's designed to be an improvement over normal Candlesticks by filtering out more 'noise', and they are popular as a result. The Heikin Ashi candlesticks are useful when trying to identify trends. Hollow candles indicate an uptrend, and hollow candles with no lower shadow indicate a strong uptrend. Conversely, filled candles point towards a downtrend and filled candles with no upper shadow even more so. A candlestick with a small body and long upper and lower shadows is reflective of indecision and might represent a trend change.

Point & Figure

Point & Figure charts are very different to conventional charts that track prices over time. It's an approach that's all about looking for trends in prices. For that reason, the only axis that counts on a Point & Figure chart is the price axis.

The columns are built using Xs and Os. An X column denotes a rising trend over a period, and an O column denotes a declining trend. Importantly the value of the X (and the O) is decided by you - so it could be 1p, 10p or 100p, for example. In addition, a new column is only started when the price enters a reversal at a threshold set by you. The whole idea is to cut out as much noise as possible (such as small price movements) to see how a price is trending. It's then possible to make trading decisions based on a multitude of strategies that use Point & Figure charts as an indicator of how prices are moving.

Settings & Sharing

There are a variety of general chart settings that you can apply to customise how you view and use Stockopedia charts. These are available using the three menu items in the top right of the Top Toolbar.
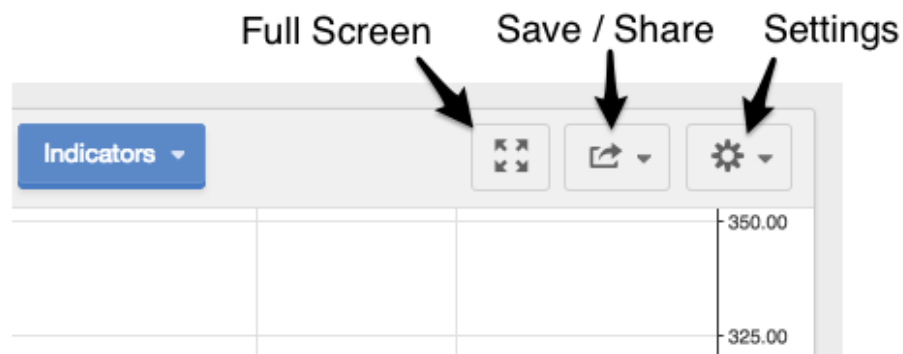

Full Screen Mode

By default the Charts are embedded within the Stockopedia website template. But chartists love their charts to be big, so we've provided a full screen mode which allows the chart to take over the entire breadth and height of the browser. Click the full screen icon provided to enjoy. You can switch back to regular size again at any time by re-clicking the icon.

Saving, Printing and Sharing

Once you've created a chart, you can save, print or share it using the menu options on the Export button. here you can also find options to copy, email or post the chart to social media.
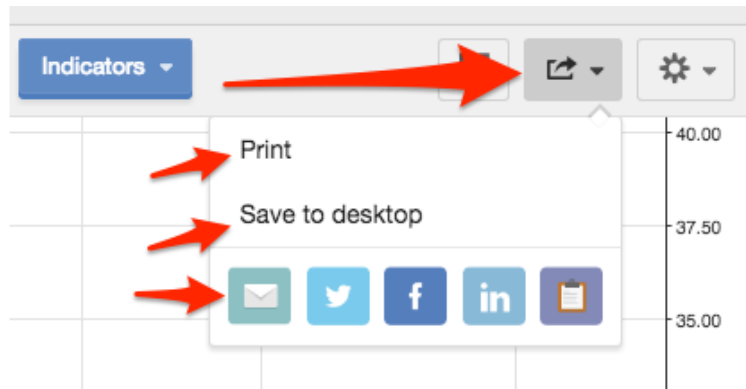
Settings

The way you view and the details you see on Stockopedia charts can be customised using the main Settings button. Clicking this provides a menu of tick-box options for you to choose from.

Log Scale

The default chart scale sets each interval of price on the vertical axis at the same distance apart - called 'linear' intervals. Logarithmic (Log) scales, on the other hand, set the intervals at exponentially decreasing intervals.

This is particularly useful when looking at the price performance of shares that have grown exponentially. A share that grows every year by 20% compounded will have an exponentially upward curving share price chart. This can make it hard to see the relative price performance from year to year. Here's a couple of charts from Domino's Pizza UK that illustrate this.

The linear chart on the left looks spellbinding and it looks as though the share is accelerating in performance. But using a logarithmic axis we can see a truer story of year on year performance. The log chart on the right normalises the growth from year to year - so a 20% compounded growth chart would effectively display a straight line. In the Domino's case above, the performance has been remarkable, but we can see that the gradient of the chart has lessened in recent years. Between 2008 to 2016 the growth rate slowed compared to its earlier performance from 2001 to 2008.

% Scale

As the name suggests, a **% Scale** chart changes the price axis to a percentage scale. With this option, over any set period, the price chart will show the increase or decrease in price percentage terms.

Names

The **Names** tick-box gives you the option to include or completely remove the information box on the left-side of the chart that tells you which stock names are included on the chart.
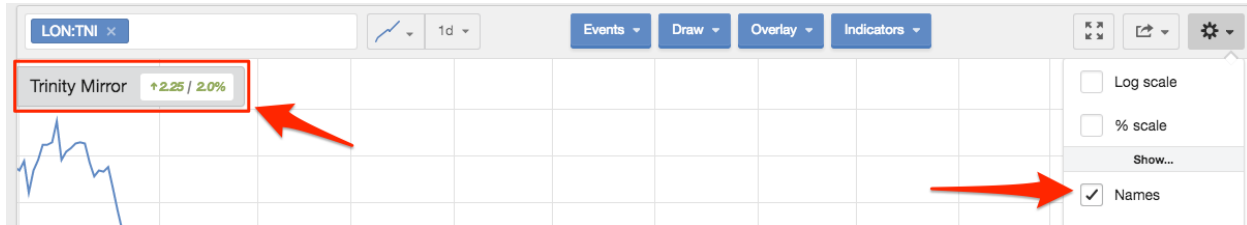
The circled colour icon next to each Name also allows the changing of the colour of the price line for that comparison chart. Click the circle and choose a new colour from the menu.

Crosshair

By default, when hovering over a chart you'll only see your mouse cursor. But for extra precision, you can opt to change this to a **Crosshair**.

The Crosshair allows you to pinpoint any position in a chart to reveal both the date (in the horizontal axis) and the price (in the vertical axis).

Legend

The **Legend** option shows the detail on the exact open, high, low, close and volume information for the price bar/point being hovered over. It displays in a black box on hover, which can be useful for understanding the underlying data.

Volume

Clicking the **Volume** tick-box will reveal an underlay showing the relative volume of shares traded each day. The higher the bars in the Volume chart, the higher the amount of shares traded during that period. Red bars represent days when the share price closed below the previous day's closing price. Green bars represent the days when the share price closed ahead of the previous day's close.

Please note that these are displayed on the Main Price Chart, and do not receive their own axis to display the volume amount. If you do want to see the volume amount, we also provide the option to add Volume as an **Indicator** in its own chart. Click the Indicator menu to see this option.

Today's price line

Today's price line is a default setting on charts, but it can be switched off using the tick-box. The line is represented by a dashed line across the chart, with today's price shown on the vertical axis.
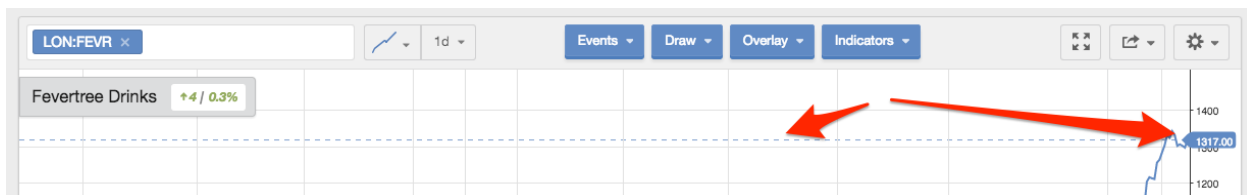
Saved Templates

Before diving into the fun of Events, Drawing Tools, Overlays and Indicators, it's important to know how to save your own Chart Templates.

Everybody has own individual preferences for how they like to view their charts. With the option to save chart templates, you'll be able to load up your favourite customised views at any time.

Once you've set up a chart with customised types, periodicity, timeframes, events, indicators, overlays and settings, you can save the output as a "Saved Template". To get started click the Save Template button at the bottom right-hand side of the Bottom Toolbar.

You can save up to 5 Saved Templates, each of which can be applied with a couple of clicks of the mouse.

You'll be presented with an option to name your template - don't forget to click Save.

Your template settings are now saved. You can login and logout and these templates will always remain saved. By default your last used template will be loaded every time you view a new Chart.

You can create multiple templates and switch between them using the menu at the bottom of the chart interface.
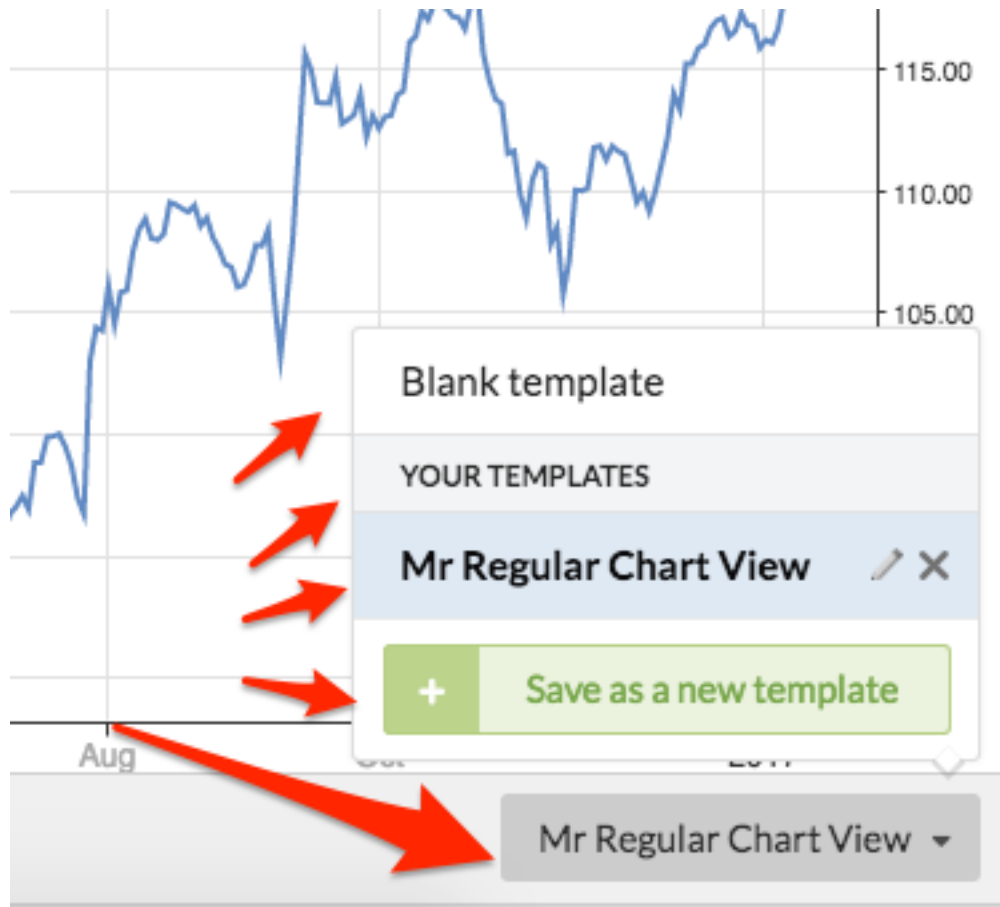
If you find that you want to make changes to one of your templates, that's no problem. By adding or removing features from a chart, you'll automatically get the option to save those changes in the template. Just click the green save icon that appears as soon as you've made changes.

You can also rename or delete a saved template by clicking the pencil or cross icon that appears in the templates menu.
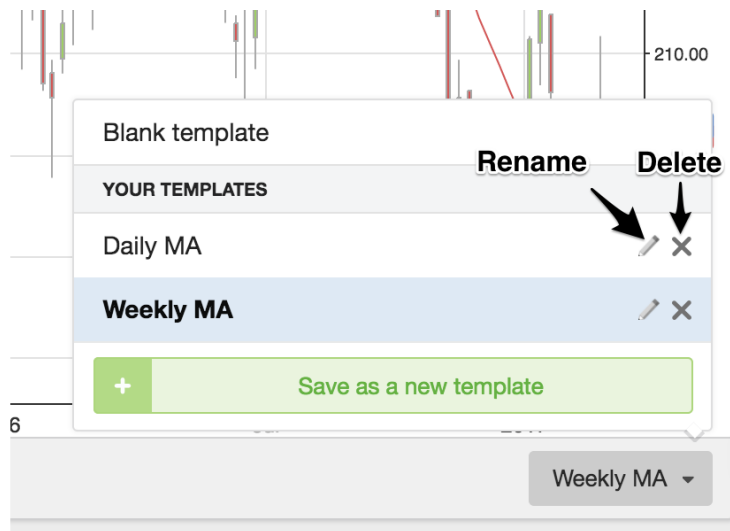
If you want to start from a completely blank template, rather than deleting all your carefully added studies, you can use the "**Blank Template**" option.
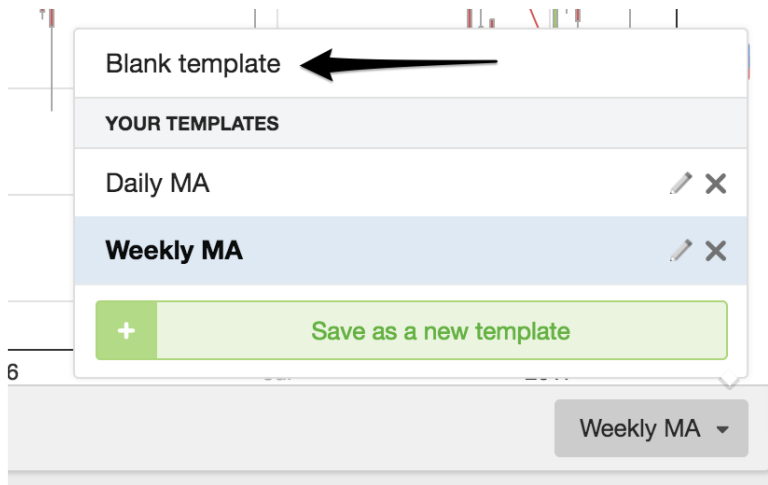
Drawing Tools

Interpreting charts and price patterns is made much simpler with the ability to draw trend lines and save annotations. All the drawings and annotations added to any security will be saved permanently. You can navigate away from the share, and come back later and the drawings will still be available.
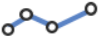
Events ▾   Draw ▾   Overlay ▾   Indicators ▾

ANNOTATIONS

Abc │   Text

Abc   Callout

◤   Arrow

SHAPES

✎   Freehand

▭   Rectangle

◯   Ellipse

LINES

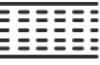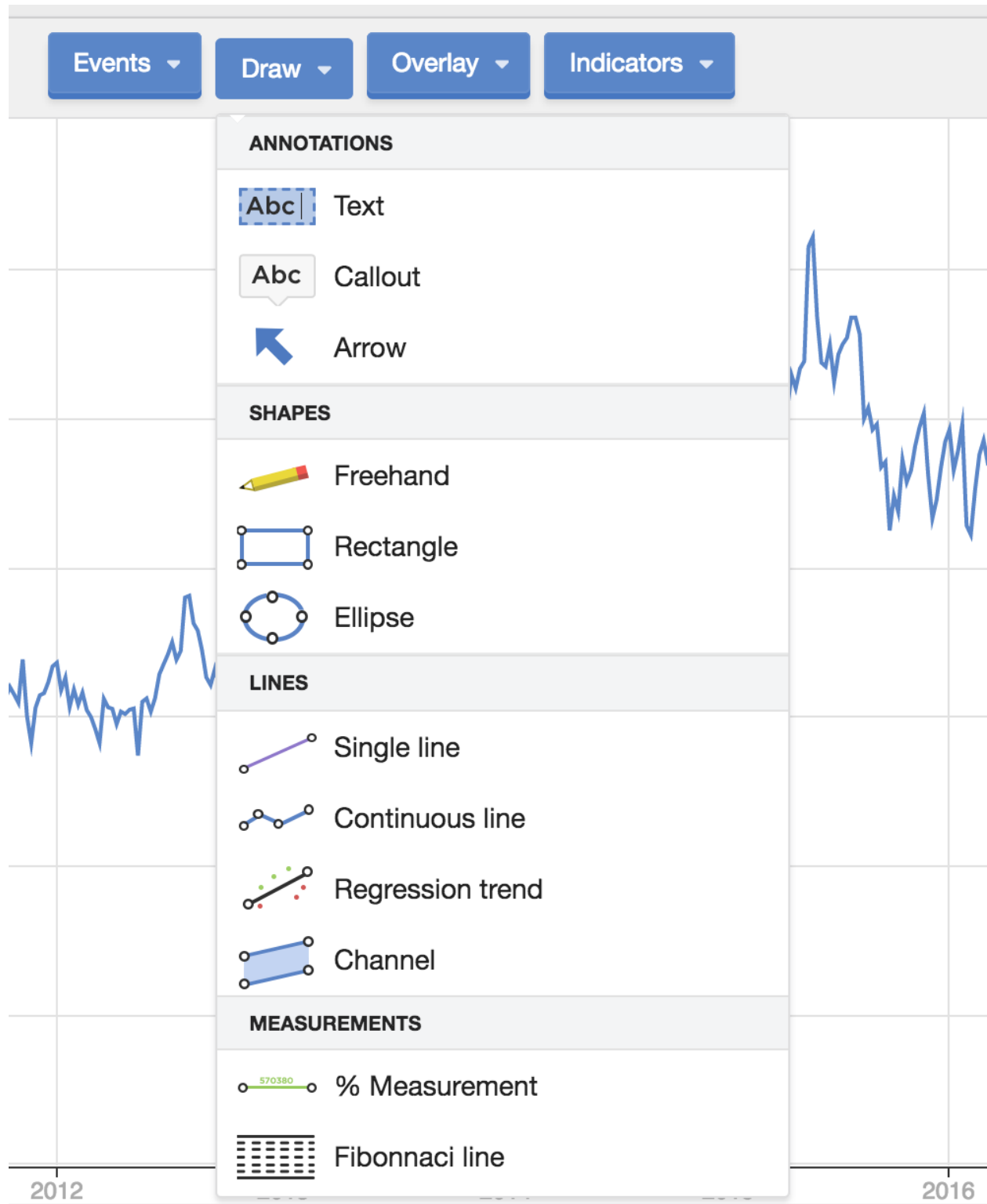╱   Single line

∿   Continuous line

⋰   Regression trend

▱   Channel

MEASUREMENTS

⊶ 570380 ⊸   % Measurement

▦   Fibonnaci line

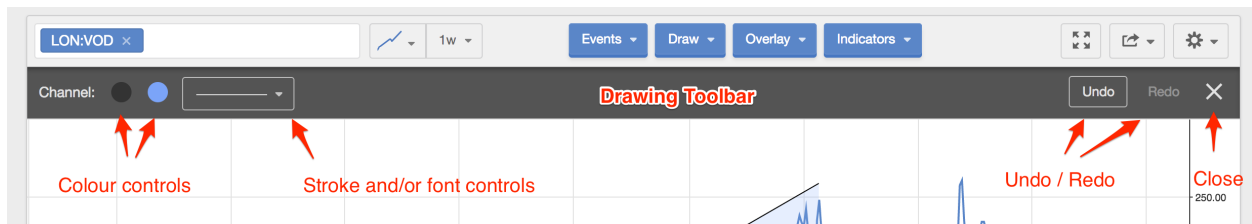2012   2016

Drawing Basics

Before we look at the range of tools available in the each section of the **Draw** menu, we should look at the shared basic behaviour of drawings.

The Toolbar

As soon as you click to add a drawing tool a black drawing toolbar will appear giving control over the generated drawings.

Colours, line stroke, font sizes and types can be controlled by using this simple editing panel. Undo and Redo edit buttons are also provided as well as an X icon to remove the toolbar and exit the drawing tools.

Removing & Editing Drawings

If you want to remove any drawing from the chart, you can hover over the drawing and right click it with your mouse. Alternatively a two finger touch gesture will do the same.

Many drawings (e.g. lines) can be edited by clicking and dragging the drawing controls that appear when hovering over the drawing.

Annotations

The first three options (Text, Callout and Arrow) in the Draw menu allow you to make simple annotations on a chart.

Text Boxes

A simple text option for adding notes to a chart. Click "Text" in the draw menu, type in some text, then save (or cancel). It's important to set the colour, font and style of the text in the Drawing Toolbar before you add it as it cannot be edited once added.
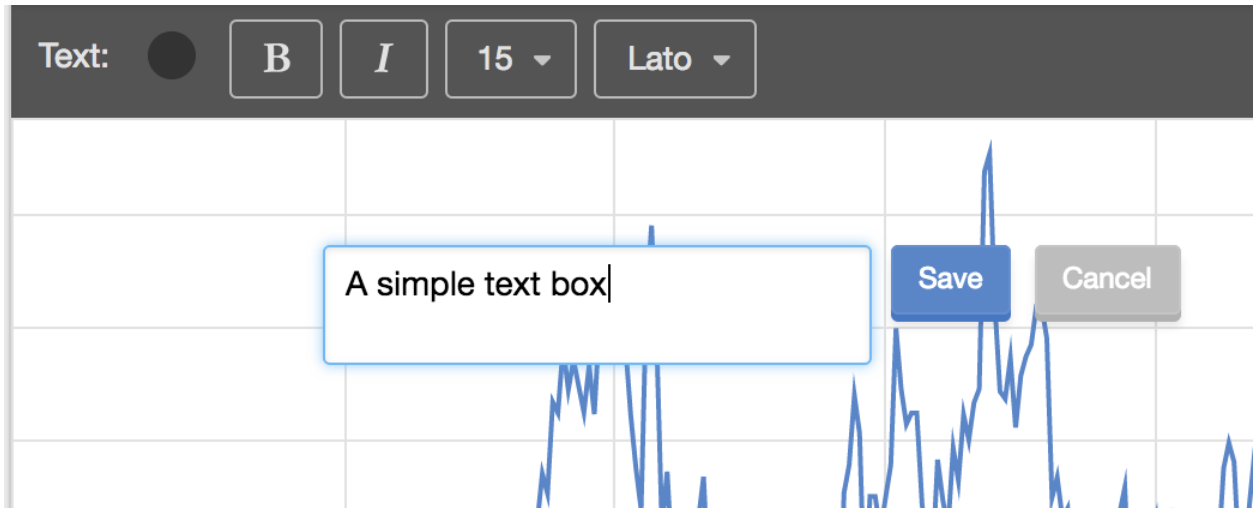
Callouts

A simple callout box that encloses text within a pointed bubble. This allows you to point text at a specific price bar in any chart.
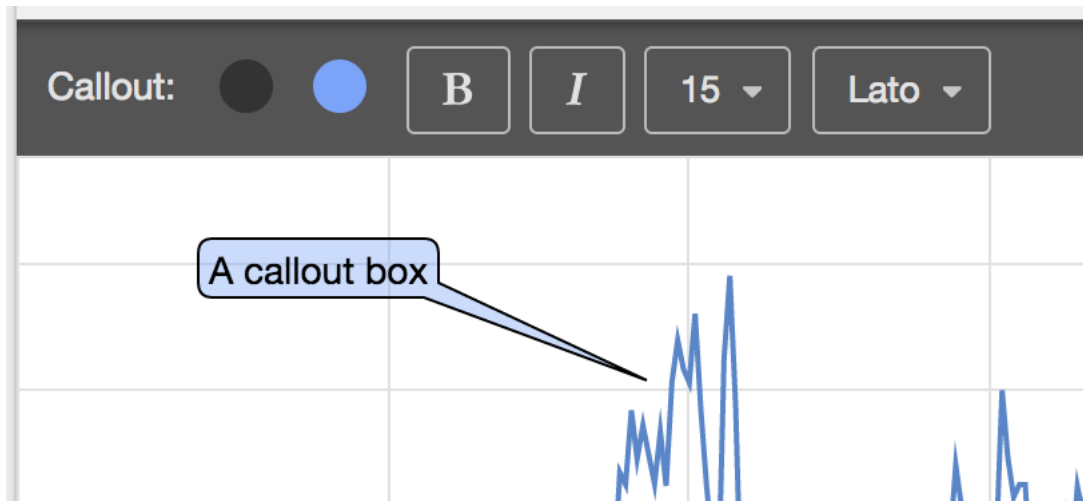
Arrows

If you want to point an arrow at a specific part of the chart this is your preferred option. Here's how to use the arrow tool. 1. Click Arrow on the Draw menu. 2. Click once on the chart and move the

cursor to create the arrow shape and size that you want. Click a second time to fix the shape and size. 3. Next, move the cursor to change the orientation of the arrow. Click a second time to fix the orientation. 4. Finally, click-and-drag the arrow into position by clicking the centre of the arrow. 5. Undo any of these steps by clicking Undo, or double-click the arrow to delete it.
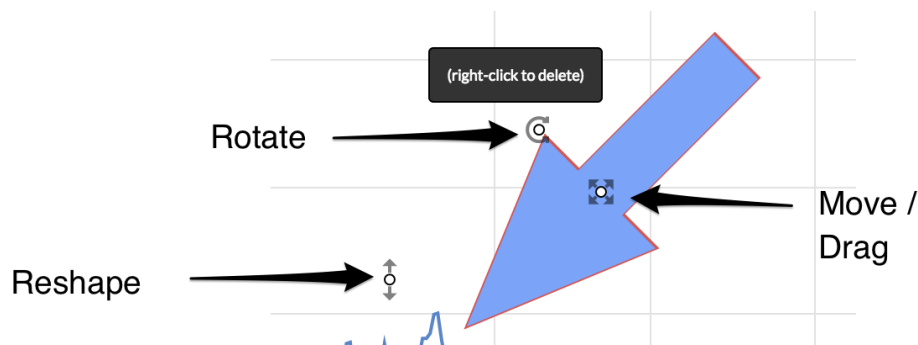
Shapes

The next section of the Draw menu gives you the option to draw Shapes on a chart, with tools including Freehand, Rectangle and Ellipse. With these tools you can draw multiple Shapes on a chart, which will automatically save until you choose to delete them.

Lines

In the Lines section of the Draw menu, you'll find a selection of line-drawing tools that you can apply to your charts. The tools include Single line, Continuous line, Regression trend and Channel. In each case, click once on the chart to begin your line, and click again where you want it to end.

Measurements

The last section on the Draw menu offers Measurements tools, including % Measurement and Fibonacci lines.

% Measurement allows you to draw a line between two points to quickly calculate percentage price movements. For example, the company Staffline had a profit warning which caused a sharp fall in price. Using the % Measurement tool, it possible to get a quick calculation of the price change, both in real terms and as a percentage - in this case -34%

Finally, Fibonacci lines - or Fibonacci retracement - can be applied to a chart in order to identify possible levels of support and resistance in price trends.

The tool is used by taking two extreme price points (a high and a low) over a set period. Simply click

at the lowest price and click again at the highest price. This will produce a Fibonacci area.

The retracement is deemed to start at the lowest price point - 0.0%. From there, lines are calculated and applied using the Fibonacci sequence - at 38.2%, 50% and 61.8%. At 100%, the reversal is deemed to have completed.

Event Flags

The Chart Events menu allows you to add flags to your charts to indicate the timing of major company events as well as your own portfolio buys and sells. Adding events to charts allows you to zero in on what may have impacted the price of the share at any time.

Clicking the blue **Events** menu button will display a dropdown menu of checkbox event options. The two main categories included are Folio Events and Company Events. Each individual event has a checkbox that can be ticked (or unticked) to display (or remove) coloured event flags on the graph below.

- Events are either plotted on the price line, or below just above the date axis.
- If multiple events occur on the same day they will be stacked vertically.
- All event flags can be hovered over to display more information.
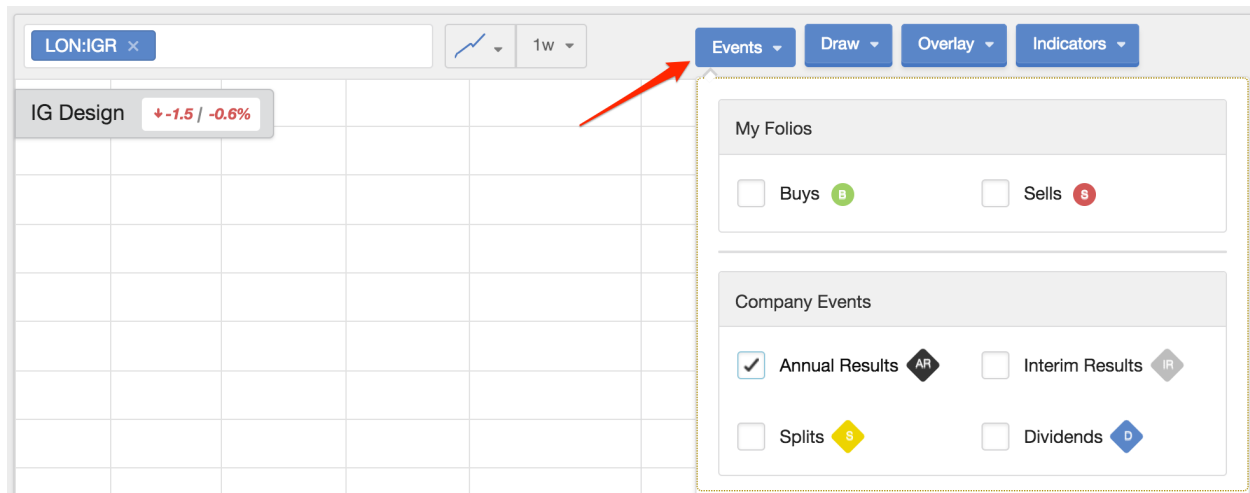
Folio Events

The Folio check boxes give you the option to plot portfolio Buy and Sell transactions on the chart. These will be plotted on the date of the transaction at the purchase (or sale) price as green (or red) flags on the price line.
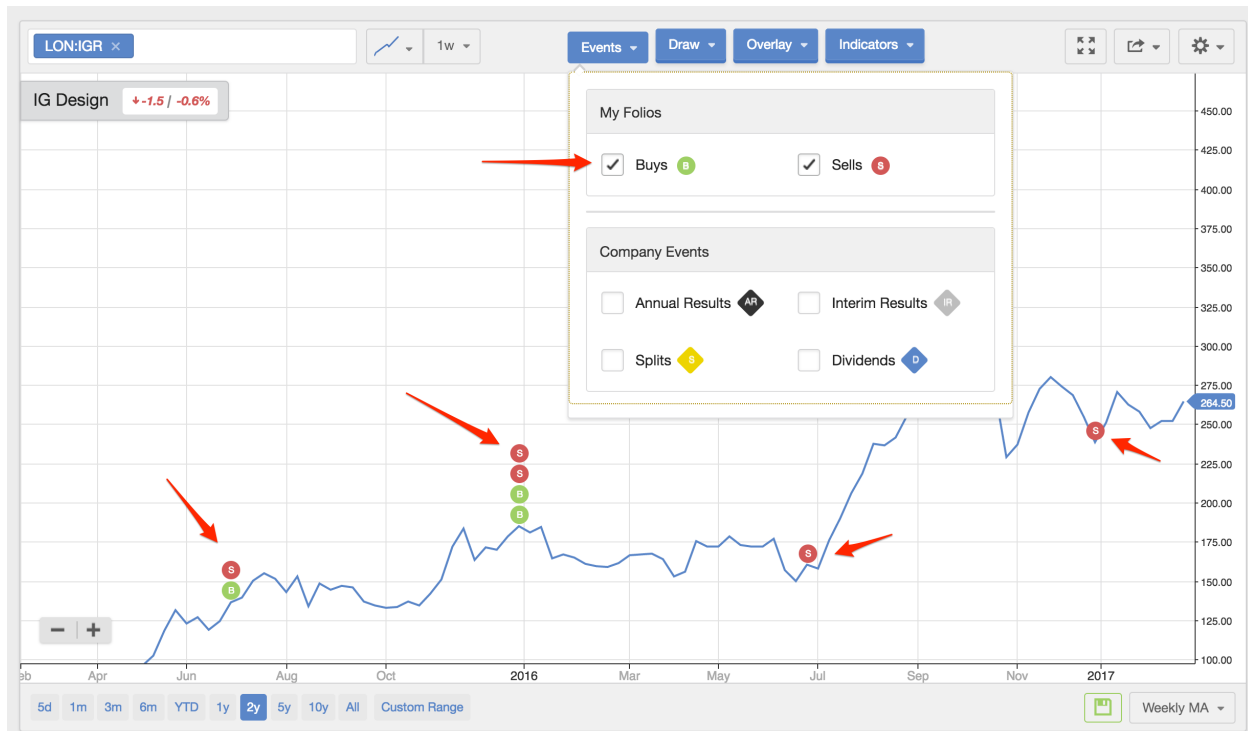
Company Events

The Company Events tick boxes allow you to plot several items with differently coloured flags:

- Annual Results - the date of the company's annual results.
- Interim Results - which may be quarterly or semi-annual depending on the company's reporting period.
- Splits - which show stock splits, bonus issues and consolidations.
- Dividends which include ex-Dividend dates and Dividend Pay dates.
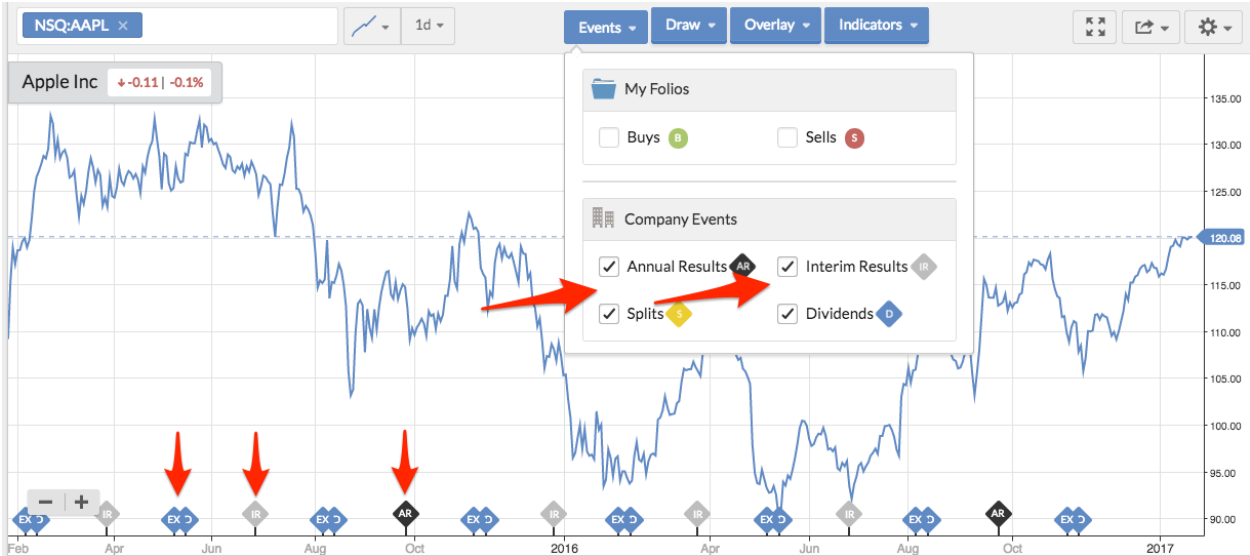
All company results flags are published at the bottom of the chart above the date line.

Overlays & Indicators

If you are starting out in Technical Analysis it can be easy to get bewildered by the hundreds of technical studies, indicators & systems that have been invented. The reality is that most studies fall into a range of categories designed to assess some simple aspects of price and volume.

We've curated a selection of technical studies into our library which can be added either as:

- '**Overlays**' displayed over the main price chart, or...
- '**Indicators**' as separate charts below the main price chart.

These can be added from their dedicated menu buttons in the top navigation bar. Each dropdown menu, triggered by a click, contains many individual studies. Similar indicators are grouped into categories.

We've created separate articles for every technical overlay and study in the package. Please do explore them in the upcoming sections.

> **NB** - all overlays and indicators respect the periodicity of the main price chart. If you do switch from daily to weekly periodicity remember that your indicators will not remain as daily indicators. So a 200 period Moving Average will turn from being a daily to a weekly indicator and require adjusting (e.g. to a 50 week MA). It is best to create saved templates of favoured chart settings.

Inline Descriptions

Before you dig into the individual articles, please note that you can popup an inline description of any of the technical overlays or indicators in the Charts interface. As you hover over any of the study names you will see a small grey info icon on the right of the row. Click it and a modal window opens with the description.
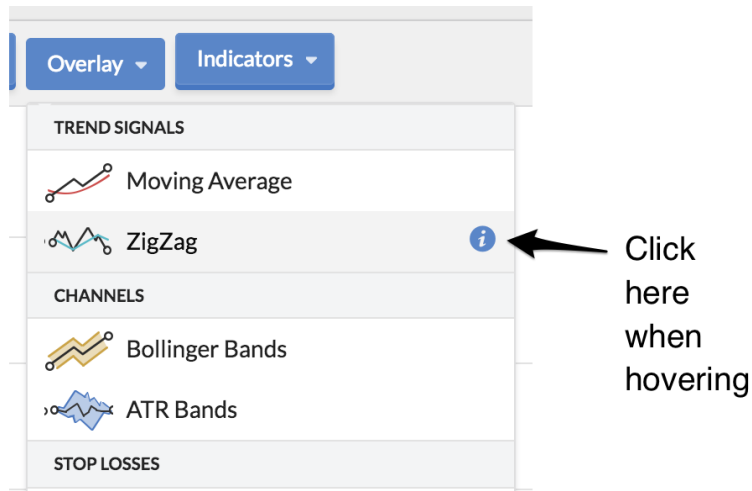
Overlays

The **Overlays** menu gives you the option to plot a variety of studies over the top of the main price chart…. from basic studies such as Moving Averages to comprehensive systems like Donchian Channels.
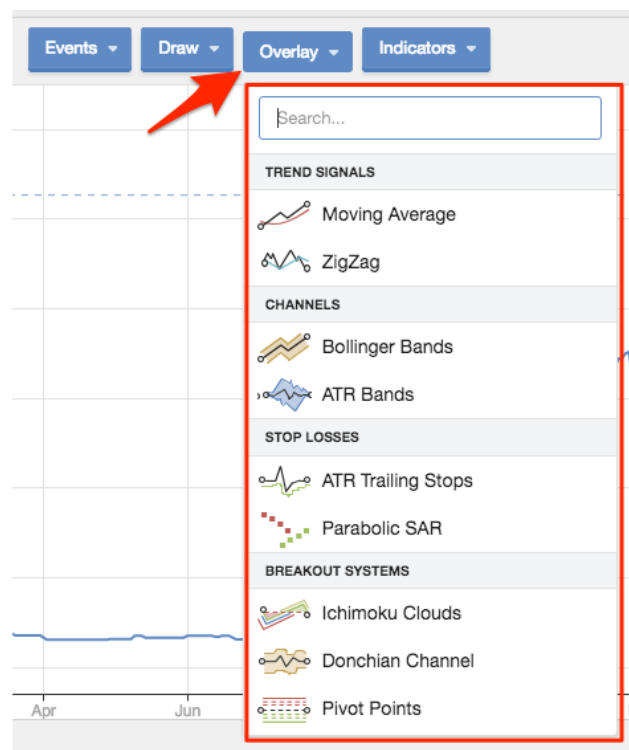
All the overlays come with default settings & colours, which customised through a modal settings form. To customise, just click the link of the Overlay in the top-right hand side of the chart to launch

the settings modal, where you can make adjustments.

Overlays currently included are:

- **Trend Signals**
    - Moving Averages[2]
    - ZigZag Charts[3]
- **Channels**
    - Bollinger Bands[4]
    - ATR Bands[5]
- **Stop Loss Systems**
    - ATR Trailing Stops[6]
    - Parabolic Stop & Reverses[7]
- **Breakout Systems**
    - Ichimoku Clouds[8]
    - Donchian Channels[9]

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[2] http://help.stockopedia.com/product-guide/charts/overlays/moving-averages

[3] http://help.stockopedia.com/product-guide/charts/overlays/zigzag-charts

[4] http://help.stockopedia.com/product-guide/charts/overlays/bollinger-bands

[5] http://help.stockopedia.com/product-guide/charts/overlays/atr-bands

[6] http://help.stockopedia.com/product-guide/charts/overlays/atr-trailing-stops

[7] http://help.stockopedia.com/product-guide/charts/overlays/parabolic-sar

[8] http://help.stockopedia.com/product-guide/charts/overlays/ichimoku-clouds

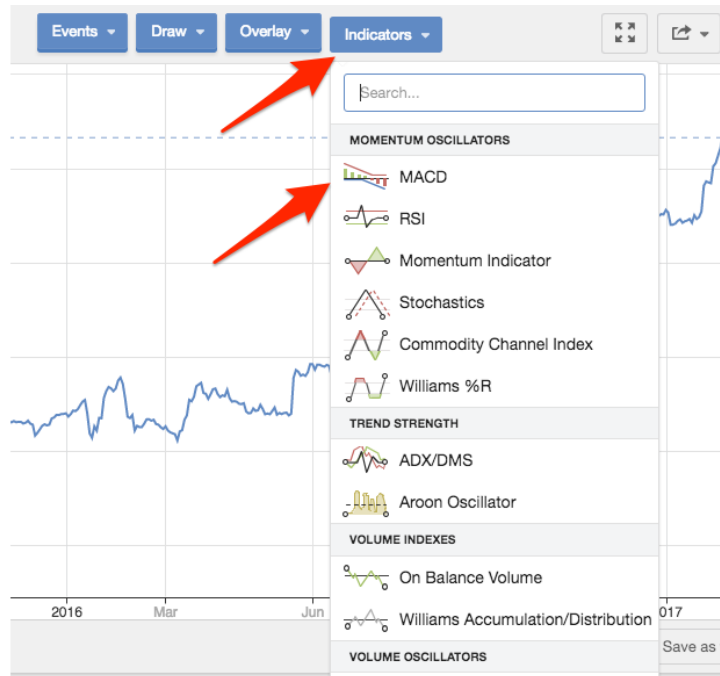[9] http://help.stockopedia.com/product-guide/charts/overlays/donchian-channels

– Pivot Points[10]

Indicators

Stockopedia charts also include a range of Indicators that can help identify and predict trends based on price and volume behaviour.

In many cases the default settings for these Indicators can be customised. To do this, add the Indicator from the menu and then click its name in the chart to reveal the Settings 'cog', which you can click to launch the settings modal.

In addition, it's possible to increase or decrease the size of Indicators by using the 'hidden' resizing bar between the main price chart and the indicator. Click and drag to resize.

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[10]http://help.stockopedia.com/product-guide/charts/overlays/pivot-points

Overlays currently included are:

- **Momentum Oscillators**
  - MACD[11]
  - RSI[12]
  - Momentum[13]
  - Stochastics[14]
  - Commodity Channel Index[15]
  - Williams %R[16]
- **Trend Strength**
  - ADX/DMS[17]
  - Aroon Oscillator[18]
- **Volume Indexes**
  - On Balance Volume[19]
  - Williams Accumulation/Distribution[20]
- **Volume Oscillators**
  - Volume Oscillator[21]

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[11]http://help.stockopedia.com/product-guide/charts/indicators/macd

[12]http://help.stockopedia.com/product-guide/charts/indicators/rsi

[13]http://help.stockopedia.com/product-guide/charts/indicators/momentum-indicator

[14]http://help.stockopedia.com/product-guide/charts/indicators/stochastics

[15]http://help.stockopedia.com/product-guide/charts/indicators/commodity-channel-idx

[16]http://help.stockopedia.com/product-guide/charts/indicators/williams-r

[17]http://help.stockopedia.com/product-guide/charts/indicators/adx-dms

[18]http://help.stockopedia.com/product-guide/charts/indicators/aroon-oscillator

[19]http://help.stockopedia.com/product-guide/charts/indicators/on-balance-volume

[20]http://help.stockopedia.com/product-guide/charts/indicators/williams-acc-dist

[21]http://help.stockopedia.com/product-guide/charts/indicators/volume-oscillator

- – Money Flow Index[22]
- **Volatility Measures**
    - – Average True Range[23]
    - – Standard Deviation[24]

- **Miscellaneous**
    - – Volume Chart[25]
    - – Correlation Coefficient[26]

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[22]http://help.stockopedia.com/product-guide/charts/indicators/money-flow-index
[23]http://help.stockopedia.com/product-guide/charts/indicators/average-true-range
[24]http://help.stockopedia.com/product-guide/charts/indicators/standard-deviations
[25]http://help.stockopedia.com/product-guide/charts/indicators/volume-chart
[26]http://help.stockopedia.com/product-guide/charts/indicators/correlation-coefficient

Appendix - Overlays & Indicators

This appendix lists all of the technical studies currently available in the Overlay and Indicator dropdown menus of Stockopedia Charts.

Overlays

Moving Averages

One of the most popular Overlays is known as the Moving Average line. Moving Averages are used in investing to smooth out the 'noise' of short term price volatility to get a more insightful view about how a price is trending over time.

A **Simple Moving Average** is calculated by taking the daily closing price of a security over a given period, adding those prices up and then dividing by the number of days. As each day passes the entire data set is updated, which is what makes this a 'moving' average.

Simple Moving Averages tend to be the preferred choice when calculating long term price trends - but they're not the only choice. **Exponential Moving Averages** (EMAs) are calculated in a way that puts extra weight on the most recent price data. EMAs are often used over shorter time scales, notably with the MACD indicator, because they can give more predictive signals about recent price moves.

To add Moving Average overlays: Click the **Moving Average** option in the menu. By default this will add the *50 Day Moving Average*. In the drop-down you'll see that you have added the MA line to your chart.

You can repeat the process, and add click Moving Average again, to add a *200 Day Moving Average*. **Importantly, you can add multiple MA lines - and all of them can be customised**.
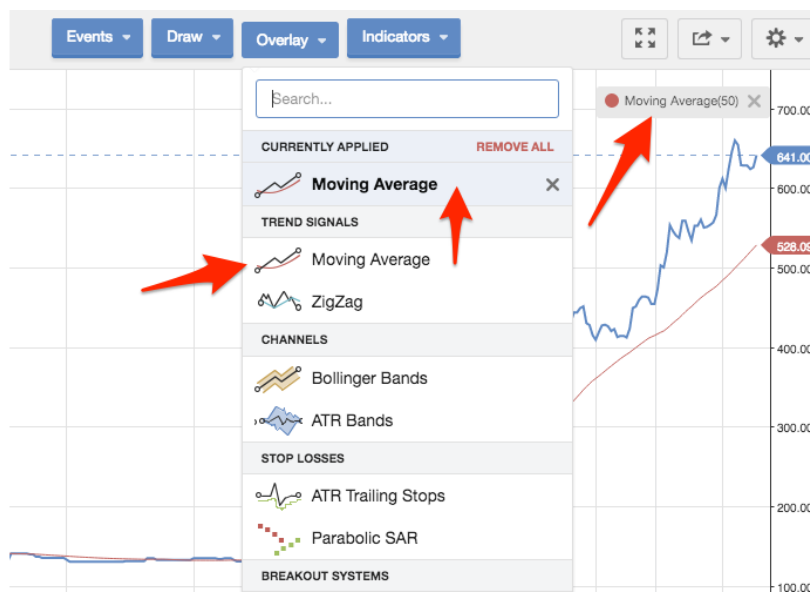
To customise a Moving Average line: Click the Moving Average link at the top right-hand side of the chart (see image above). This will open a modal window where you can adjust the timeframe and toggle between a Simple Moving Average and an Exponential Moving Average. Click Close.
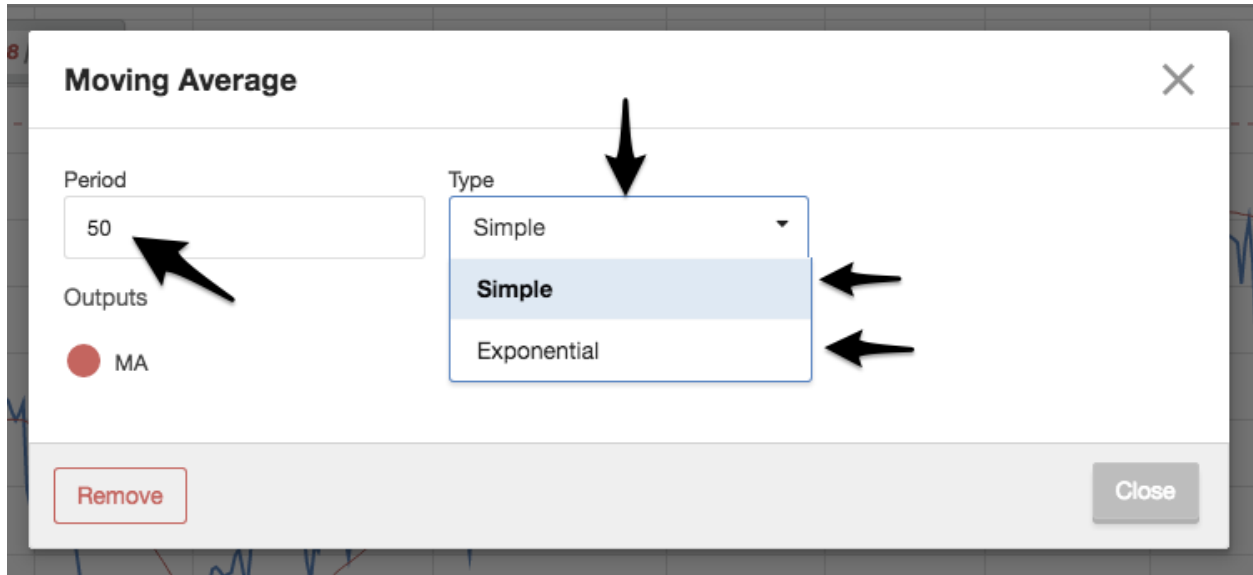
In addition, you can also change the colours of your Moving average lines, by clicking the colour circle in the settings modal.
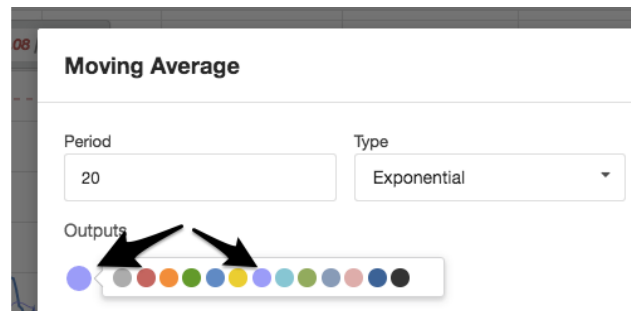
Once you've made your adjustments, the price chart will show your Moving Average lines.

Zig Zags

Zig Zag overlays are another ways of seeing trends on charts by removing insignificant price volatility. The Zig Zag is set to to only change direction when the price change is greater than a certain percentage.

By default, the percentage is set to 10%, but you can adjust this by clicking the ZigZag link at the top right-hand side of the chart. This will open a modal window where you can adjust the percentage distance. Click Close.
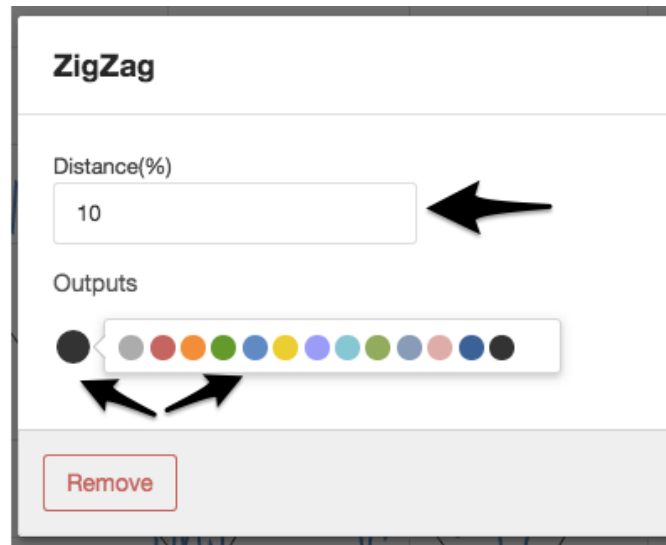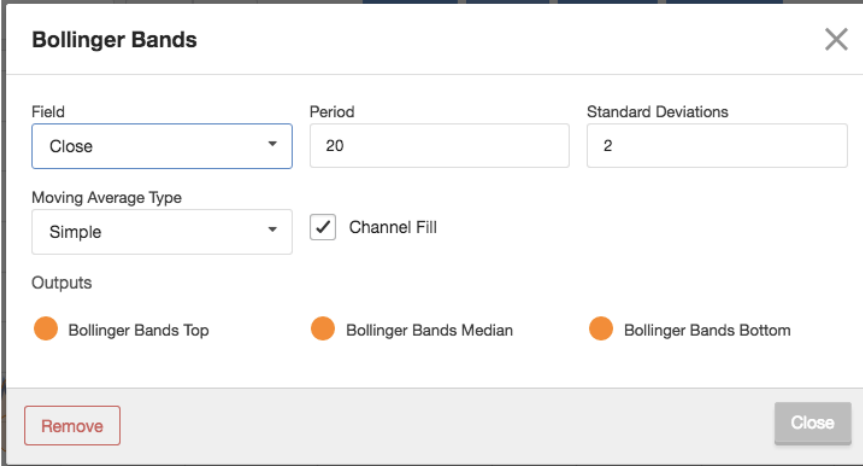
Bollinger Bands

Bollinger Bands are overlay channels that are drawn using a stock's Moving Average (MA) and the standard deviation from the Moving Average. They consist of three bands, with the following default settings: 1. A middle band (plotted using a stock's 20-day moving average) 2. A lower band (plotted 2 standard deviations **below** the moving average) 3. An upper band (plotted 2 standard deviations **above** the moving average)

The lower and upper bands can be used to identify levels of support and resistance in price.

As with all overlays, the Bollinger Bands default settings can be customised. Simply click the Bollinger Bands link at the top right-hand side of the chart. This will open a modal window where

you can make your adjustments.

ATR Bands

Average True Range is one of a number of technical analysis tools developed by Welles Wilder. Some of the others include the Relative Strength Index, Average Directional Index and the Parabolic SAR.

ATR Bands focus on the degree of price volatility in a stock. They can be used to time the entry into trades and help with setting volatility-based stop-losses.

True Range is calculated by looking at the daily price change and using the greater of three calculations: (high – previous close), (previous close – low) or (high – low).

Average True Range is the True Range calculation over a **5-day period average**.

ATR Bands take multiples of the ATR - in this case **a default multiple of 3** - and plot them as bands above and below the ATR line.

The ATR time period and multiple can be adjusted by launching the settings modal.

ATR Trailing Stops

ATR Trailing Stops are a way of using the principles behind Average True Range - a measure of the degree of price volatility - and using it to set trailing stop-losses.

The idea is that ATR gives a guide to the average volatility of price movements over a given period, making it easier to be more precise about where to set the stop-loss.

True Range is calculated by looking at the daily price change and using the greater of three calculations: (high − previous close), (previous close − low) or (high − low).

In the case of ATR Trailing Stops, the Average True Range is the True Range calculation over a default **21-day period average**.

A multiple of the ATR - in this case **a default multiple of 3** - is plotted around the ATR line.

These settings can be adjusted by launching the ATR Stops settings modal.
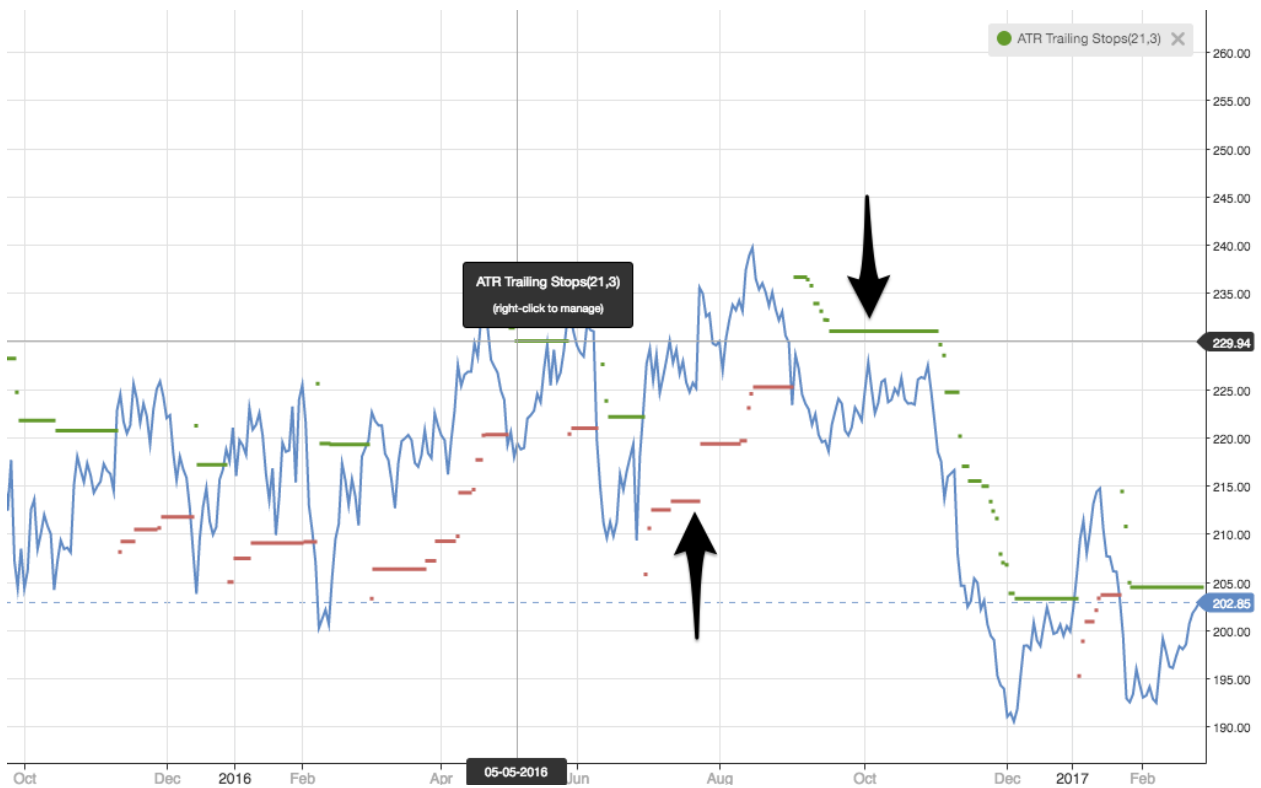

Note that when the ATR Trailing Stop line is **Red**, it represents the **Buy Stop** (if you were 'long' this is where you would sell). When the line is **Green**, it represents the **Sell Stop** (if you were 'short' this is where you would sell).

Parabolic SAR

The Parabolic SAR (stop and return) is a trading system devised by Welles Wilder that looks for changes in price trends.

When you apply this overlay to a chart, the first SAR point appears at the end of the previous price trend. From thereon, in an uptrend, new points are plotted as the price makes new highs. In the case of an uptrend, the Parabolic SAR line appears underneath the price line. But in a downtrend, the SAR line is above price line.

The maths behind the calculation for plotting the SAR line uses something called an Acceleration Factor.

By default, the minimum Acceleration Factor is set at 0.02, which rises to a maximum of 0.2. Each time the price reaches a new high or low, the Acceleration Factor is increased by 0.02. That continues up to the maximum of 0.2, regardless of whether the trend carries on.

These settings can be adjusted in the Parabolic SAR settings modal.

Ichimoku Clouds

Ichimoku Clouds are used to find areas of support, resistance, trends and momentum and can be used to identify trading signals.

Ichimoku Clouds consist of five trend lines:

- The **Conversion Line** (or Tenkan-Sen): This is typically the midpoint (ie. average) of a 9-period High-Price and a 9-period Low-Price. The period can be days, weeks or even months.
- The **Baseline** (or Kijun-Sen): This is typically the midpoint of a 26-period High-Price and a 26-period Low-Price.
- The **Leading (Senkou) Span A**: This is the midpoint between the Conversion and Base lines. It is also plotted 26 periods ahead of the current period.
- The **Leading (Senkou) Span B**: This is the midpoint between the 52-period High and the 52-period Low. Like the Senkou Span A, it is plotted 26 periods into the future.

The space between Span A and Span B is a shaded area known as the Kumo Cloud. It is red when Span A is below Span B. It turns green when Span A rises above Span B.

- The **Lagging (Chikou) Span** is the Closing Price, plotted over the previous 26 periods.
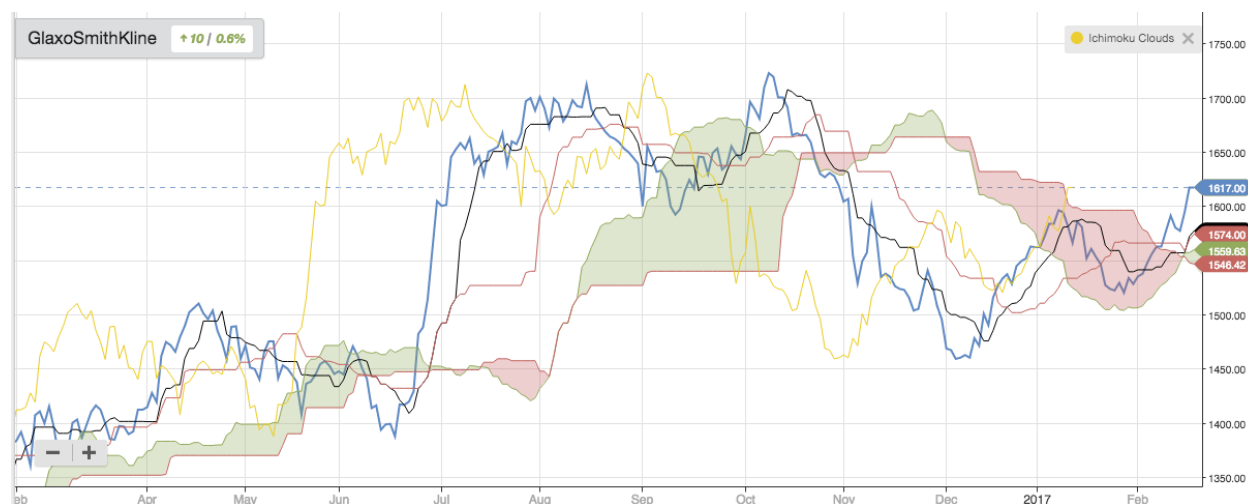
The overall trend is up when prices are above the cloud, down when prices are below the cloud and flat when they are in the cloud itself. In an uptrend, a green cloud indicates more strength. In a down trend, a red cloud indicates more weakness. Because the cloud is shifted forward 26 periods, it also gives an indication of support and resistance in the future.

The key settings for Ichimoku Clouds can be customised by launching the settings modal.

Donchian Channels

Donchian Channels are a trend following indicator used to plot the highest highs and lowest lows in price over a given period.

The idea is that the indicator offers a view of volatility in price - with the Donchian Channel being wider in periods of high volatility.

The indicator can also guide entry and exit positions because it offers a visual on when a price breaks out above the upper band of the channel and breaks down below the lower band of the channel.

The Donchian Channel settings use the previous 20 days for both the high and low prices. These parameters can be changed in the Donchian Channels settings modal.
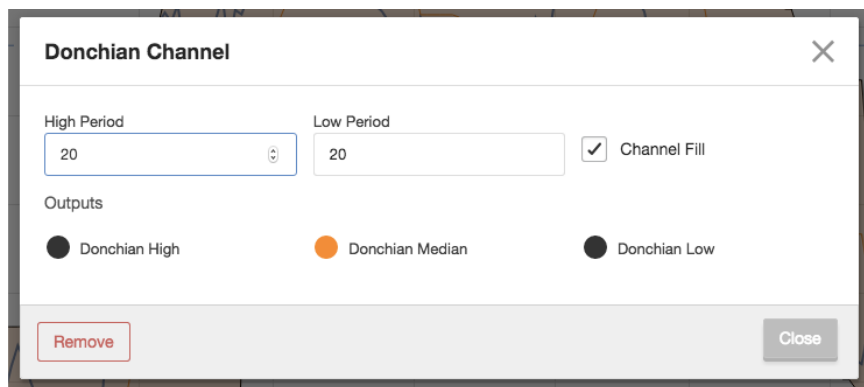
Pivot Points

Pivot Points are horizontal lines that plot the average of a company's most recent high, low and closing price. They also overlay a series of support and resistance levels.

Typically, the top red lines represent resistance, while the bottom green lines represent support. The black line in the middle is the Pivot Point.

There are three pairs of support and resistance levels used in a Pivot Point overlay. Here are the calculations:

- Pivot point (P) = (H + L + C) / 3
- Third resistance level (R3) = P + 2 x (H − L)
- Second resistance level (R2) = P + (H − L)
- First resistance level (R1) = (2 x P) − L

- First support level (S1) = (2 x P) – H
- Second support level (S2) = P – (H – L)
- Third support level (S3) = P – 2 x (H-L) (H = Previous High, L = Previous Low, C = Previous Close)

The main inputs for Pivot Points can't be customised, but the colours used on the chart can be using the Pivot Point settings modal.
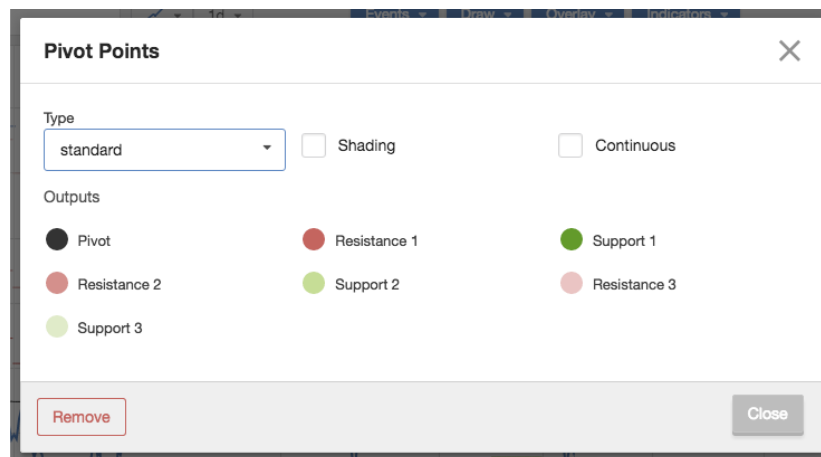
Indicators

MACD

MACD - **Moving Average Convergence / Divergence** - is a momentum and trend-following indicator that uses three different moving averages.

There are two main parts to MACD. The first is to take two short term moving averages:

- 12-Day Exponential Moving Average
- 26-Day Exponential Moving Average

The 26-Day MA is subtracted from the 12-Day MA to create a MACD line.

Next, a Signal line is created by taking the average of the difference between the two MAs - in this case a 9-Day MA. The two lines are plotted against each other.

Importantly, MACD uses Exponential Moving Averages. Unlike Simple Moving Averages, EMAs put more weight on the most recent price data. As a result they are more sensitive to recent price movements than SMAs, which can lag.

There are three methods for interpreting the MACD:

- **Crossovers**: It is considered a bearish signal when the MACD falls below the signal line, while a bullish signal occurs when the MACD rises above the signal line.
- A **Divergence** occurs when the stock price diverges from the MACD, signalling the end of the current trend. A divergence is considered bullish when the stock price makes new lows but the MACD does not make new lows. It is considered bearish when the stock price makes new highs but the MACD fails to do so.
- A **Dramatic Rise** occurs when the MACD rises dramatically and the shorter-term moving average pulls away from the longer-term moving average, signalling that the security is overbought.
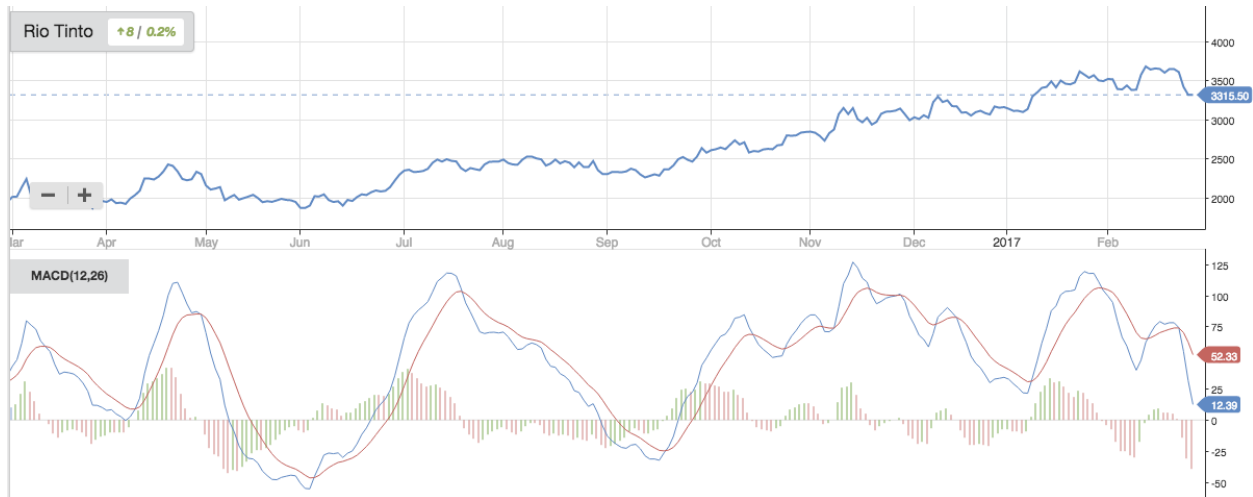
Precise MACD settings can by customised by clicking 'MACD' and then clicking the settings icon.

RSI

The Relative Strength Index (RSI) is a technical momentum indicator that compares the magnitude of a stock's recent 'up closes' (where the price closed higher than it opened) to recent 'down closes' (where the price closed lower than it opened). The results are then indexed from 0 to 100. The number of days used in the formula is a matter of preference. The default value for stocks is 14.

The RSI can be used to determine 'overbought' and 'oversold' conditions. For instance, if a stock's RSI falls below 30, it could be seen as oversold. But when it breaches an RSI of 70, it could be overbought.
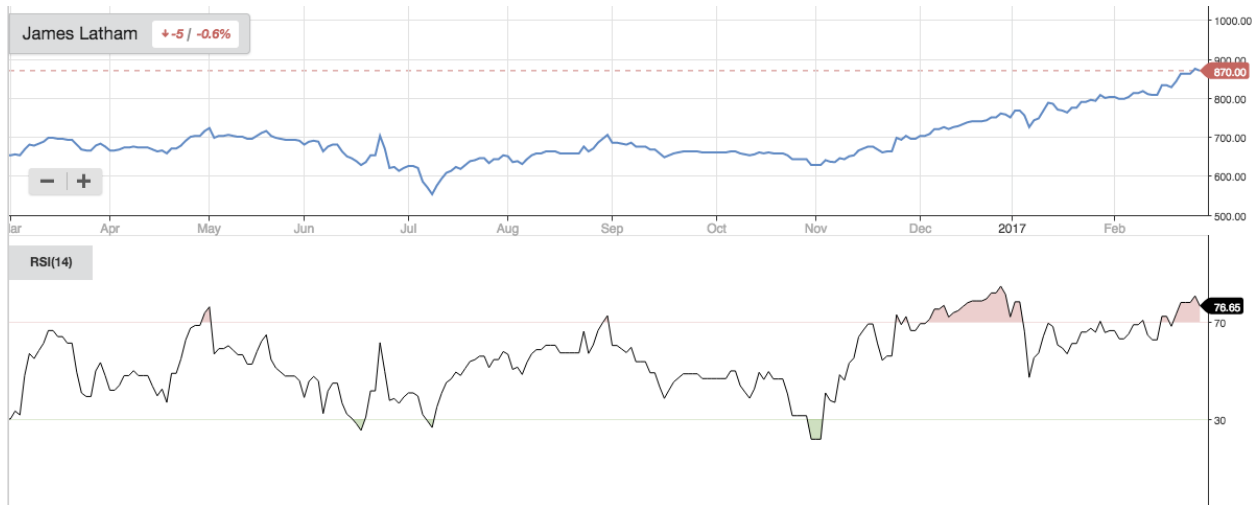
The RSI can also be used to identify divergence. Divergence happens when a price makes a new high (or low) but the RSI does not reach new highs (or lows). It could be a bearish signal if the price reaches a new high while the RSI does not. Likewise, it could be a bullish signal if the price reaches a new low while the RSI does not.

All aspects of the RSI indicator, including colours, can be customised in the settings modal.

Momentum Indicator

The Momentum Indicator shows the difference between the current price and the price a specified number of periods ago. It measures the rate at which the price of a particular stock is rising or falling.

By default, the Momentum Indicator tracks price strength over 14 days, but this can be adjusted in the settings modal.
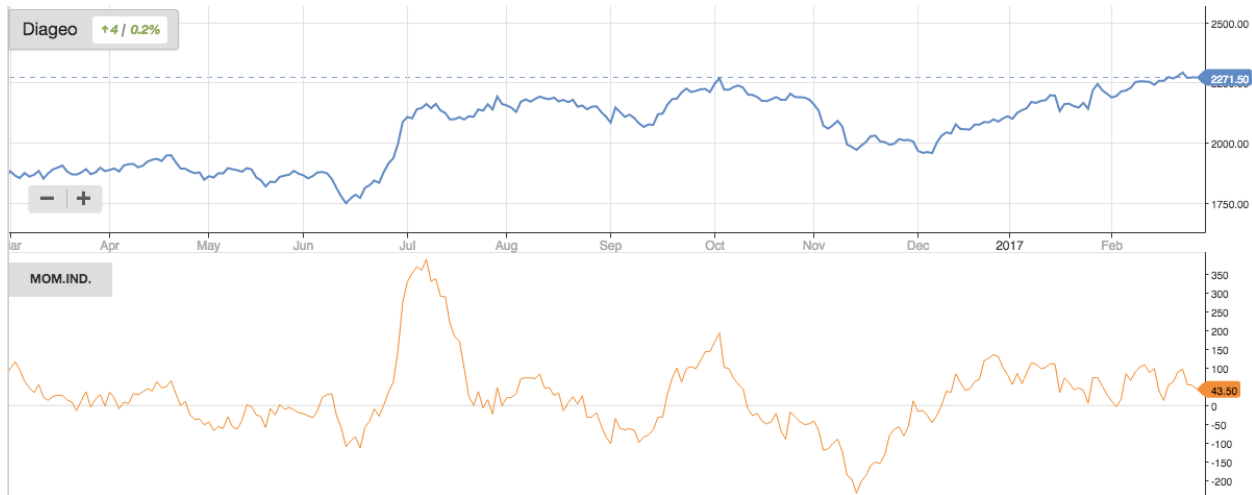
Stochastics

The Stochastic Oscillator is a momentum indicator that measures where a stock price is in relation to its recent trading range.

Usually, the calculation uses a 14-day trading period. This is then 'smoothed' by taking a 3-day moving average of that 14-day range. Both lines are shown on the Stochastics chart. All the inputs into the Stochastics calculation can be adjusted in the settings modal.
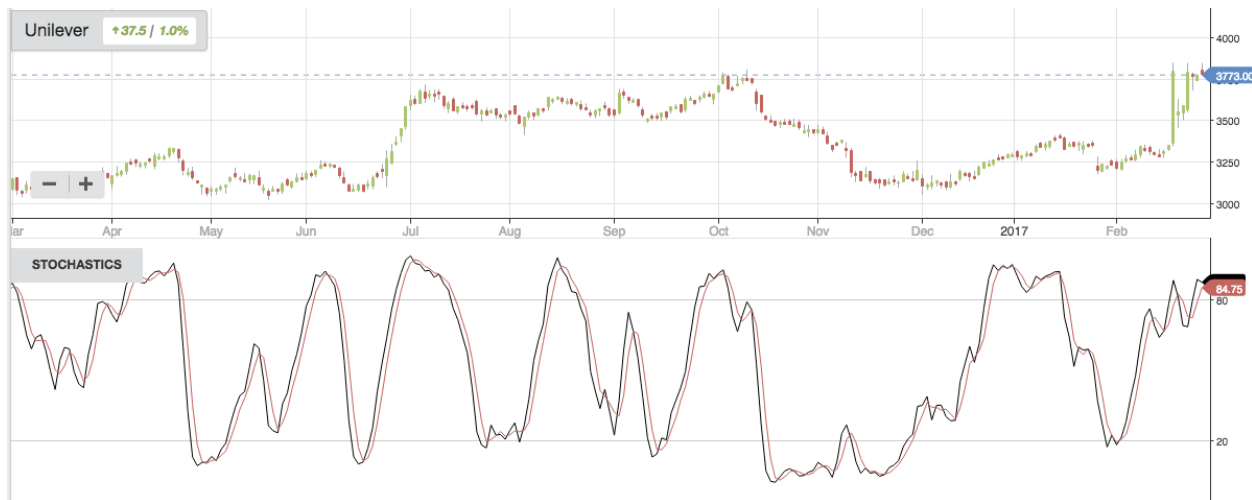
Both Stochastics lines oscillate on a vertical scale of 0 to 100. A stock may be considered to be overbought (or oversold) when the oscillator moves above 80 (or below 20).

Commodity Channel Idx

The Commodity Channel Index (CCI) is a momentum indicator that measures the current price of a stock in relation to its average price over a period of time (typically 20 days).

The CCI calculation starts by taking the average of the high, low and close price over set period. In the case of a 20-day CCI, it would then subtract the 20-day moving average.

The precise formula is:
Typical Price - Moving Average of Typical Price / (0.015 x Mean Deviation)
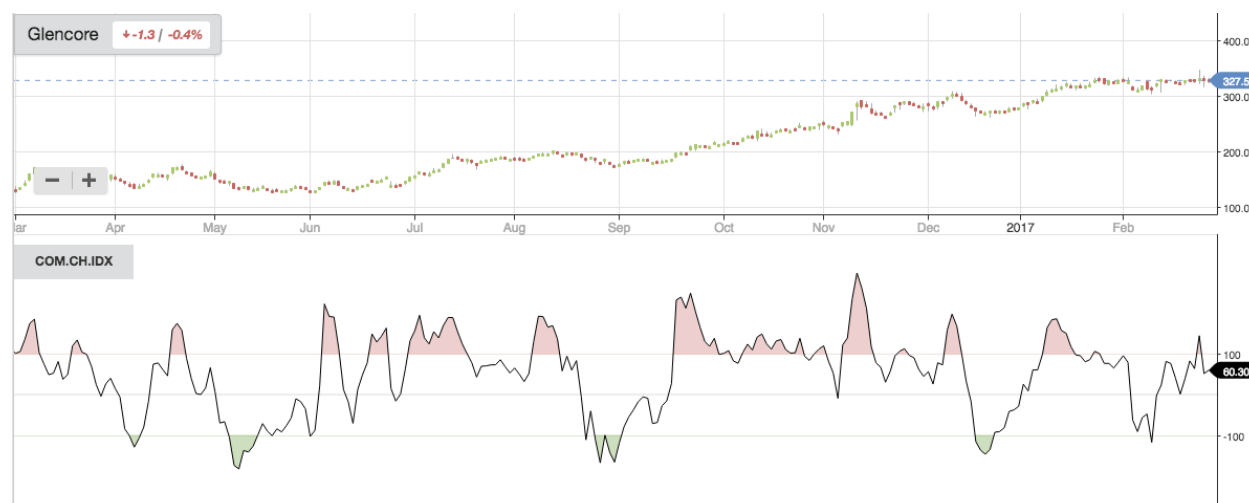
In the majority of cases, the CCI value will range from -100% to 100% and can be used to generate buy and sell signals. The CCI settings modal offers customisable 'overbought' and 'oversold' levels. By default, these are set to +100 for overbought and -100 for oversold.

Williams %R

The Williams %R is a momentum indicator that compares a stock's current price to its Highest High and Lowest Low price over a specified period of time (typically 14 days). It is calculated using the following formula:

Williams %R = (Period Highest High - Current Price) / (Period Highest High - Period Lowest Low) x -100

Larry Williams - who first developed this indicator - considered values below -80 as oversold and above -20 as overbought.
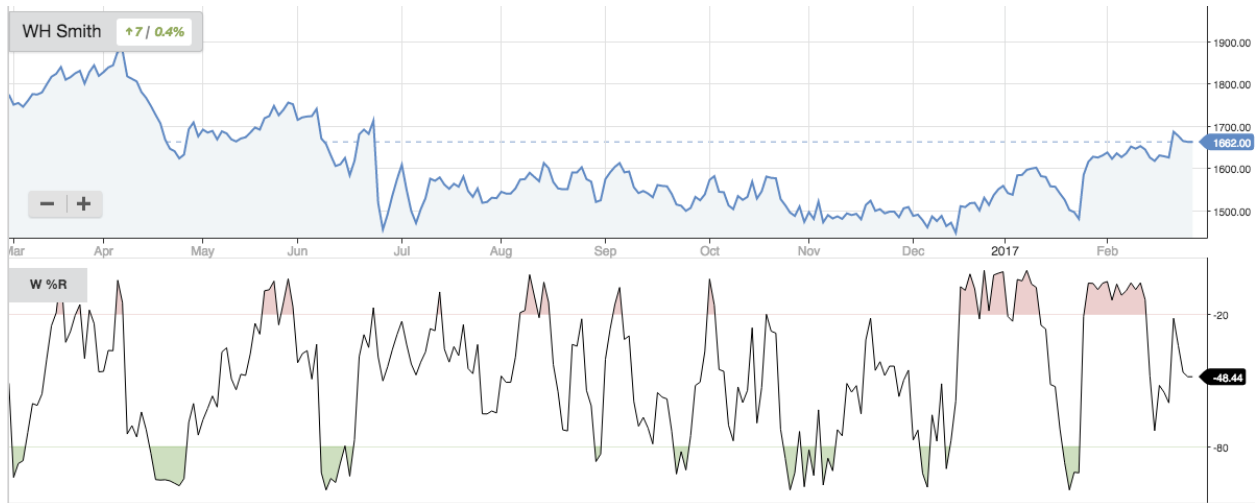
ADX/DMS

ADX/DMS is an indicator that uses three inputs to analyse the strength and direction of a price trend. It was originally devised by Welles Wilder.

The three inputs are the Average Directional Index (ADX), the Minus Directional Indicator (-DI) and the Plus Directional Indicator (+DI). The first of these measures the strength of a trend, regardless of direction. The second two measure the direction of the trend.
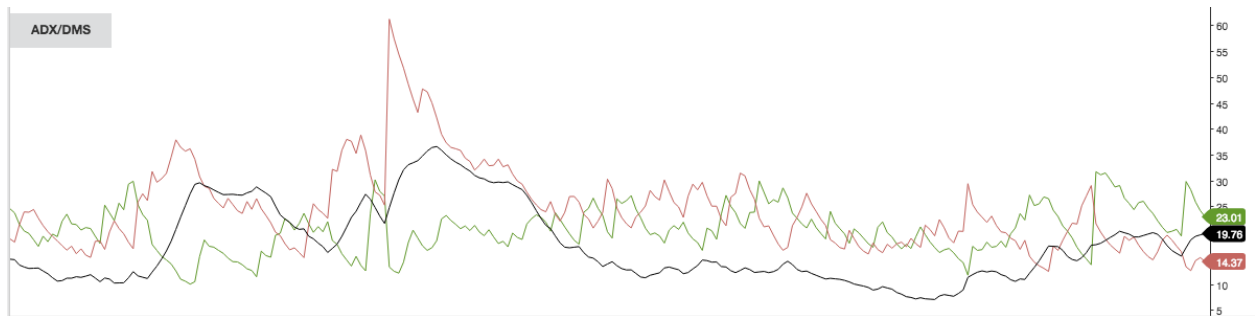
By default the ADX is calculated by taking the 14-day moving averages of the +DI and -DI values. ADX/DMS period length and line colours can be adjusted in the settings modal.

Aroon Oscillator

The Arron Oscillator is used for finding trends in prices. It's constructed using two inputs:

- The Aroon Up - which measures the strength or an uptrend over a set period
- The Aroon Down - which measures a downtrend over a set period

The Aroon Oscillator is simply the difference between the Aroon Up and the Aroon Down. The set period is 14 days by default, but this can be adjusted in the Aroon Oscillator settings modal.

The Aroon Oscillator swings between values of -100 and 100 (0 being the middle line). When the Oscillator is in positive (or negative) territory, this hints towards an uptrend (or downtrend). The Oscillator would move closer towards 100 (or -100) as the upward (or downward) trend becomes stronger. When the Oscillator is closer to 0, this suggests the stock is going through a period of price consolidation.
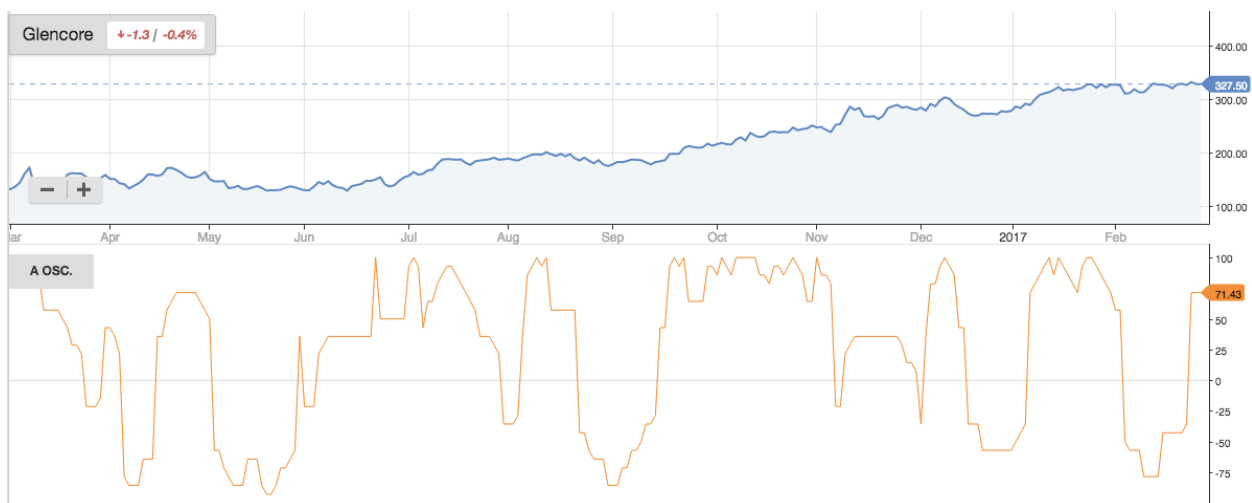
On Balance Volume

On Balance Volume is a cumulative indicator that measures trading volume flow by adding the volume on up-days and subtracting the volume on down-days.

By relating price to volume, it's possible to observe the divergences that may occur, which could signal bullish or bearish trends. The OBV was conceived to predict when significant fluctuations in security prices and the market would occur.

The positive volume pressure which causes the OBV line to rise should lead to price increases. The negative volume pressure which causes the OBV line to fall will likely lead to the price decreasing.
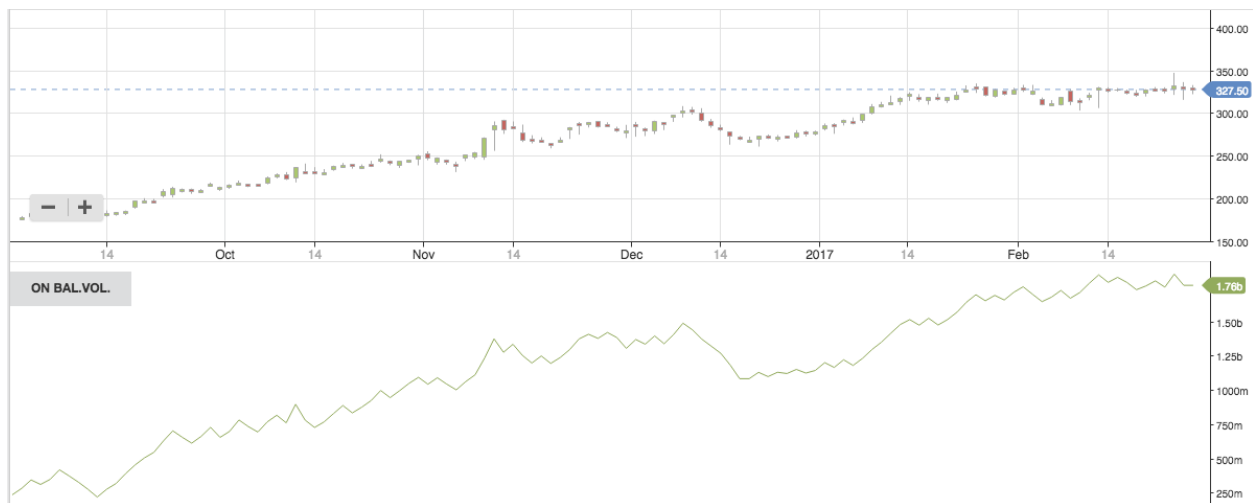
Williams Acc / Dist

Williams Accumulation / Distribution is a momentum indicator that analyses divergences between the price of a security and its volume flow. It aims to identify whether investors are selling (distributing), or if they are buying (accumulating).
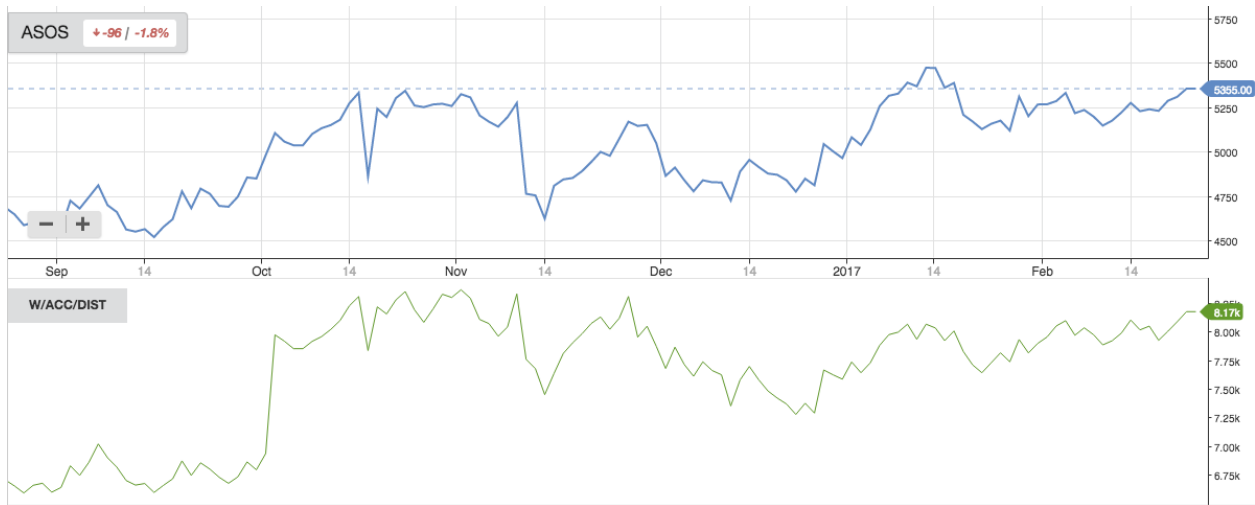
When the Williams Accumulation / Distribution line fails to achieve a new high but the price still manages to do so then distribution is occurring. However, when the Williams Accumulation / Distribution line doesn't reach a new low and the price does, this means that accumulation is taking place.

Volume Oscillator

Volume is simply the number of shares that have been traded over a given period. In turn, the **Volume Oscillator** identifies volume trends by using a Fast Moving Average (typically a 28 day/weeks MA) and a Slow Moving Average (typically 14 days/weeks MA). Their difference is then plotted as a histogram. These settings can be adjusted in the Volume Oscillator settings modal.

Using the Volume Oscillator to confirm price trends: - When the Fast Moving Average is higher than the Slow Moving Average, the Volume Oscillator will be positive. This could signal a strong

price trend. - When the Slow Moving Average is higher than the Fast Moving Average, the Volume Oscillator will be negative. This could signal a weak price trend.

Money Flow Index

The Money Flow Index is a volume-weighted Relative Strength Index. It uses price and volume to measure trends in buying and selling.

The conventional Relative Strength Index (RSI) compares the magnitude of a stock's recent 'up closes' (where the price closed higher than it opened) to recent 'down closes' (where the price closed lower than it opened). The results are then indexed from 0 to 100.

The difference with the MFI, is that instead of using close prices, it uses the typical price multiplied by volume.

Average True Range

Average True Range (ATR) is a volatility indicator. A high (or low) ATR indicates that a stock is more (or less) volatile.

The calculation behind the ATR begins by finding the True Range, which is the greatest of the following:

- Today's high - Today's low
- Today's high - Yesterday's close
- Yesterday's close - Today's low

The Average True Range is simply a moving average of the True Range, and it's typically worked out using a 14 day moving average.


ATR can be used to generate buy or sell signals. Some traders buy a stock when the price reaches the level equivalent to the open price, plus the ATR (or a multiple of the ATR). Alternatively, some traders sell a stock when the price reaches the level equivalent to the open price, minus the ATR (or a multiple of the ATR).

Standard Deviation

Standard Deviation is a volatility indicator that measures the dispersion of a set of data values around the average.

A stock with a smaller Standard Deviation of price values would be less volatile than a stock with a larger Standard Deviation of price values.
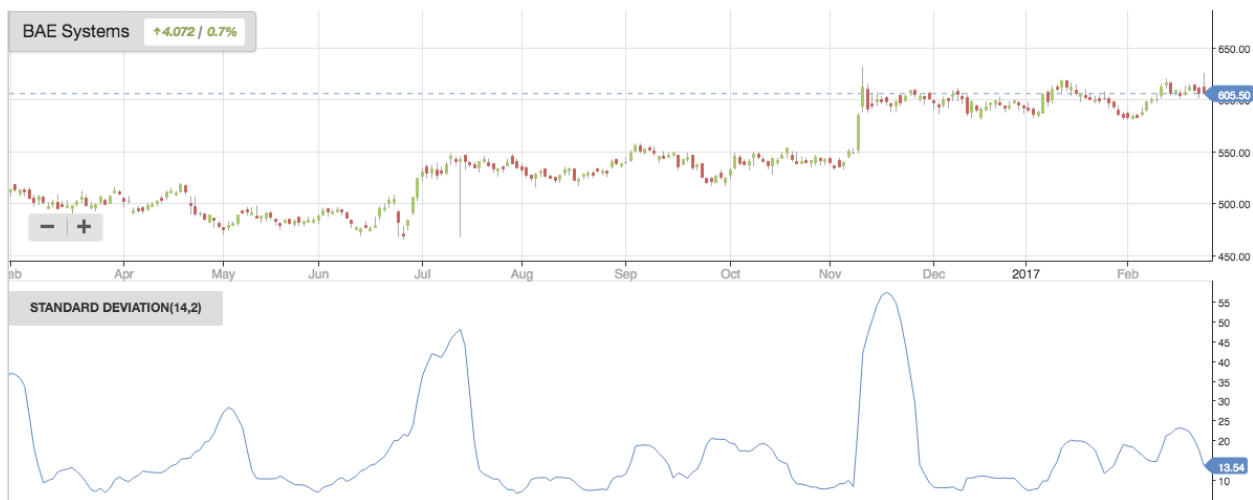
Volume Chart

The Volume Chart shows the number of shares that have been traded over a given period. Volume is measured from close-to-close. When the price closes *below* the previous close, the volume bar is red. When the price closes *above* its previous close, the bar is green

Volume data can give an indication of whether price trends are sustainable. If an uptrend is accompanied by rising volume, this could indicate that a growing number of bullish investors are buying the stock. The price trend could therefore be more sustainable. On the other hand, there are typically less active market participants during bearish phases. Therefore, if trading volume is falling or steady, it could signal that a market is becoming exhausted and a price reversal is around the corner.

Correlation Coefficient

The Correlation Coefficient is a measure of the relationship between two securities in terms of how correlated their movements are. This is useful in understanding how any variations of stocks, sectors or markets move in relation to each other.

By default, the calculation is made using closing price from the previous 14 days. Correlation Coefficients range from -1.0 to +1.0. At -1.0, the two securities are completely uncorrelated, whereas at +1.0 they are perfectly correlated.