

PowerDesk: operation manual

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1. Introduction

1.a. General presentation

PowerDesk is the multi-market platform, using all push notifications, entirely developed by Fineco. It is characterised by an advanced functionality, timely information and a full range of trading options.

Trading is available on equity securities, ETFs, Covered Warrants, Certificates, Currencies, Options, Futures, Bonds, CFDs on indices and Forex

With PowerDesk you can access the following stock exchanges: MTA, SeDeX, Nasdaq, Amex, Nyse, Euronext (France, The Netherlands, Portugal) Xetra, Ibex, LSE (Sets), Virt-x, Hex25, Idem, Eurex, CME, Forex, TLX, EuroTLX, Mot and EuroMot

1.b. Main features

The horizontal format of PowerDesk has been designed so you can view all the data at the same time without having to carry out any configuration. Pre-set watchlists with the baskets of Italian, European and American share indices and the lists of Futures traded on Idem, Eurex and CME, MOT and ETLX bonds, Forex, Options and CFDs; 8 fully customisable lists; news, order and portfolio screens are always in the foreground.

The **top section** of the platform includes:

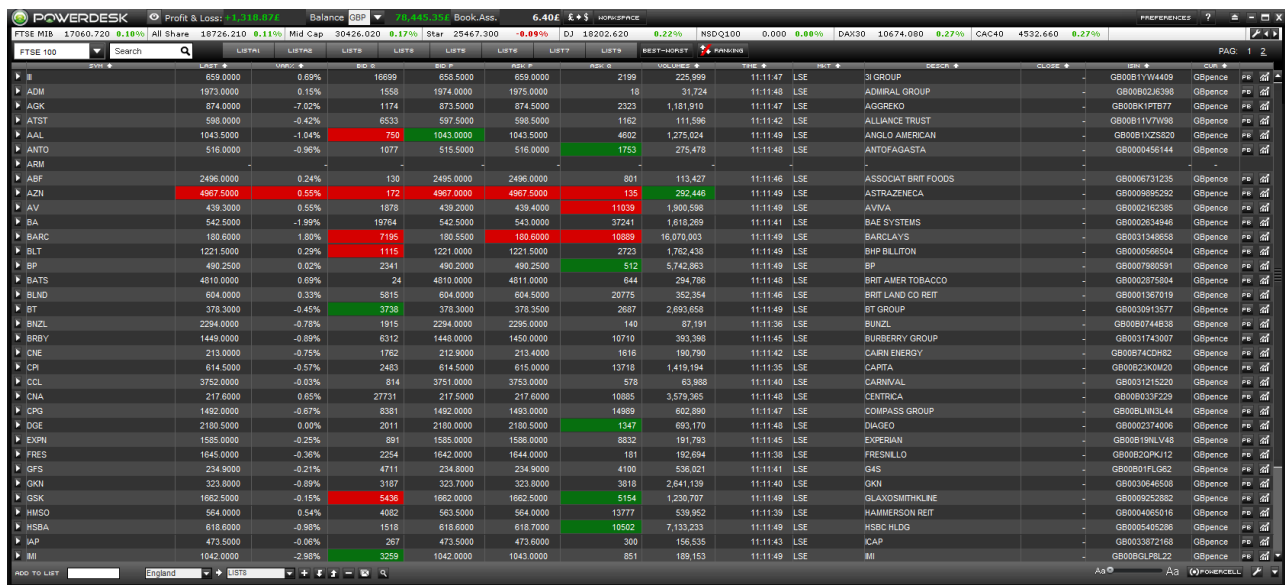
1. The Profit & Loss account, which shows the trading portfolio performance in real time.
2. The dashboard with the reserved funds and the balance in a currency which can be selected from the drop-down menu.
3. The button for currency exchange (€, \$, £ and CHF).
4. The button to activate Workspace (a customisable workspace)
5. Platform management buttons: Preferences and Help.
6. Buttons to set the PowerDesk dimensions.
7. Market Bar, the fully customisable ticker, updated in real time.



The **central section** of the platform contains the lists of securities:

1. At the end of each row, you can set up to two functions choosing from: an advanced technical analysis chart, the list of Covered Warrants with the pertinent underlying instrument, the Vertical Book and the PowerBoard.
2. Symbol search.

3. Buttons to manage the tools included in each Watchlist.
4. Font size management tool.
5. PowerCell, the command to copy the data in the Watchlist and export it to Excel spreadsheets, for example to use the DDE engine.
6. Predefined lists from FTSE MIB, Mid Cap, Star, Dow Jones 30, Nasdaq 100, Germany, France, United Kingdom, Spain, Switzerland, The Netherlands, Portugal, Finland, TLX, Mot, Idem, Eurex, CME, CFDs on Indices, Forex and Options.
7. Customisable lists.
8. Best-Worst
9. Ranking



The screenshot displays the POWERDESK software interface. At the top, there's a header bar with various indicators like Profit & Loss, Balance, and Book Age. Below this is a search bar and a list of predefined watchlists (FTSE 100, All Share, Mid Cap, Star, etc.). The main area is a large table of stock data. The table has columns for Ticker, Price, Change, Volume, and other financial metrics. The data is sorted by price, with the highest values at the top. The interface is dark-themed and includes various navigation and tool icons on the right side.

The **bottom section** of the platform is divided into three areas and the height can be varied to give more space to the element you require.

By default, the panels include:

1. News, Indices and Spread.
2. Order Screen, Alerts and conditions, P&L and Baskets.
3. Portfolio.

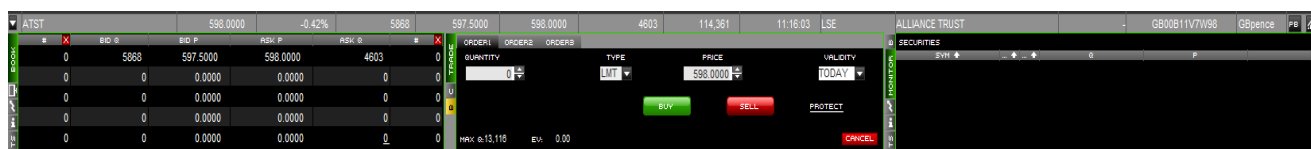
The size of each panel (portfolio, order screen, news) can be fully customised simply by selecting and dragging the side edge.



The screenshot displays the FINECO trading platform interface. On the left, there is a 'WATCHLIST' section with a table of securities. The table has columns for 'TIME', 'NEWS', 'SYMBOL', 'COUNTRY', 'STATUS', 'PRICE', 'VOLUME', 'LAST PRICE', 'LAST VOLUME', and 'LAST TIME'. The 'WATCHLIST' is currently set to 'REAL TIME' and 'English'. The main area shows a 'PORTFOLIO' section with a table of securities. The table has columns for 'SYMBOL', 'COUNTRY', 'PRICE', 'VOLUME', 'LAST PRICE', 'LAST VOLUME', and 'LAST TIME'. The 'PORTFOLIO' is currently set to 'REAL TIME' and 'English'.

Security detail: each row of the Watchlist can be expanded to display the specific information of a financial product. Each expansion is divided into three areas where various information and tools can be found:

1. On the left and right you can click and choose whether to see the five-level Book, the order screen for the single product, the tick by tick mini-chart, the news concerning the security and Time & Sales.
2. The central part is used for trading and has two different screens for entering orders: Trade view and the window for conditional orders.



The screenshot displays the FINECO trading platform interface, specifically the trade order screen. The top section shows a table of securities with columns for 'SYMBOL', 'COUNTRY', 'PRICE', 'VOLUME', 'LAST PRICE', 'LAST VOLUME', and 'LAST TIME'. The 'WATCHLIST' is currently set to 'REAL TIME' and 'English'. The main area shows a 'TRADE' section with a table of securities. The table has columns for 'SYMBOL', 'COUNTRY', 'PRICE', 'VOLUME', 'LAST PRICE', 'LAST VOLUME', and 'LAST TIME'. The 'TRADE' is currently set to 'REAL TIME' and 'English'.

1.c. Activation

Activation and deactivation

To use PowerDesk, the service must be activated by clicking on "Activate/Deactivate" in the website area reserved for activations (Home Customer - Request new services). Activation is immediate: once you have completed the procedure, just log in again in order to use PowerDesk. Deactivation takes effect from the first day of the following month.

1.d. Technical data sheet

PowerDesk does not require software to be installed on your computer: however you do need Sun Java Virtual Machine. This means PowerDesk can be used anywhere and is not restricted to any specific PC: simply go to the Fineco website and click on the Powerdesk link or on Start to launch the platform.

You can also use the stand-alone platform by pressing the "download" button in the platforms and services section.

In both cases, a jnlp file will be downloaded which can be run manually if it does not open automatically.

Windows

To use PowerDesk, the minimum configuration required is: a Pentium IV processor, 1024 MB RAM, ADSL connection (minimum), 1280x1024 Monitor resolution, Windows 7, Internet Explorer 8 and Sun Java Virtual Machine version 8+

Apple

PowerDesk is compatible with Macintosh, with an OS-X 10.7 or higher (Lion) operating system, recommended browser Safari, and Java Virtual Machine version 8+.

Installing Oracle Java Virtual Machine

To install the correct version of Virtual Machine on your computer, simply click on:

http://www.java.com/en/download/download_the_latest.jsp

Technical notes

- Java components can be downloaded and installed by the system administrator for company networks.
- The RAM indicated is not the actual amount of memory used by the application, but is an indicative value to guarantee normal computer use. The value indicated is therefore the sum of the memory allocated by the operating system and the amount needed to use the trading platform and other programmes such as MS Excel or TradeStation.
- To be able to use PowerDesk with antivirus/firewall acting on the connection, you need to check the correct configuration of the finecobank.com domain with the antivirus manufacturer and enter it as trusted. In particular, PowerDesk connects to the powerdesk.finecobank.com machines through ports 80 and 443.

1.e. PowerDesk maintenance

For optimum use of PowerDesk, we recommend that you regularly (at least once a week) clean out the Temporary Internet and Cookie Files which may be found among the Internet options of your browser. For example, for Internet Explorer, just click on Internet Options in the Browser Tools menu.

Internet Options

General Security Privacy Content Connections Programs Advanced

Home page

To create home page tabs, type each address on its own line.

Use current Use default Use blank

Browsing history

Delete temporary files, history, cookies, saved passwords, and web form information.

☐ Delete browsing history on exit

Delete... Settings

Search

Change search defaults.

Settings

Tabs

Change how webpages are displayed in tabs.

Settings

Appearance

Colors Languages Fonts Accessibility

Some settings are managed by your system administrator.




OK Cancel Apply

2. Functionality


2.a. Management controls

The platform's management controls are located in the top right corner.



1. the help button  is connected to the Help Station: the User Manual may be viewed there
2. The PowerDesk Preferences button
3. This function  transforms the PowerDesk platform into an independent ticker which contains the following information:
 - Profit & Loss.
 - Dashboard showing reserved funds and the balance in the selected currency.
 - Market Bar.
4. Windows Controls  to minimise PowerDesk, to resize it and to close it.

2.b. Preferences

The  link opens the personal settings window and these settings are also stored for subsequent accesses.

The window has several sections:

- General settings
- Market Bar
- Order
- Watchlist
- Screen
- PowerBoard

Settings and any changes are managed by using these three buttons:



<**Restore Default**> allows you to cancel all changes made and to restore the initial settings.

<**Confirm**> allows you to save the changes made.

<**Cancel**> is used in order not to implement any changes.

> General

The **PowerDesk graphic settings** can be selected in this section

- the colour scheme: ice, black, sky blue, light blue, dark blue and grey;
- the method of displaying every upwards or downwards price change by highlighting: the cell border, the background or only the text;
- the "shutdown" speed of the cells after each update. This function allows you to change the speed, measured in milliseconds, at which cells are shut down. The value can be selected from the drop-down menu: the lower the value selected, the faster the cell illumination is "shut down".

Other configurations

It is possible to select:

- the size of the font, choosing among small, medium or large;
- the balance display;
- the pop-ups display (graphics, portfolio, screens, etc.) always in the foreground.

You can also define the **configuration of the bottom panels**, choosing the best combination between: Indices, News, Spread and Portfolio.

Alerts

Settings and defaults: when an alert is triggered on a security, you can choose whether to be notified by pop-up, email or text message. Note: Before you can use email or text alerts, it is important to ensure these contacts have been certified by Fineco.

Closing options: you can set a request for confirmation when the platform closes in this section.

> Market Bar

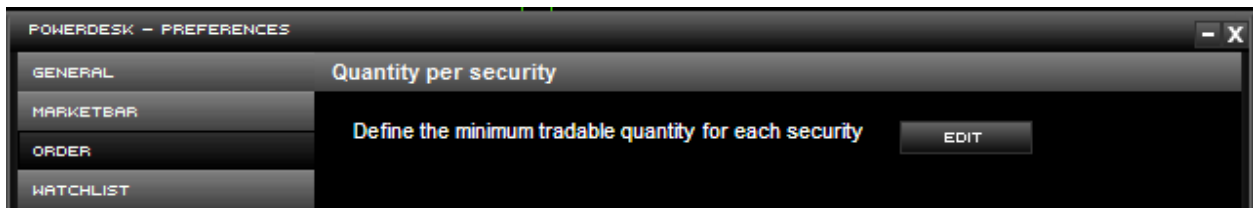
This section allows you to choose which contents should be included in the horizontal ticker located below the PowerDesk logo.

2. You can choose any financial instrument: shares, indices, futures or currencies. Powerchart, the technical analysis chart, opens by clicking on the symbol.

FTSE MIB	15757,050	1,10%	All Share	16642,110	1,06%	Mid Cap	16821,500	0,78%	Star	10601,480	0,37%	S&P500	0,000	0,00%	DJ	13258,760	0,08%	NSDQ100	2678,370	-0,14%	
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> Order

With PowerDesk you can decide the **default quantity** for the 20 securities you trade most frequently.



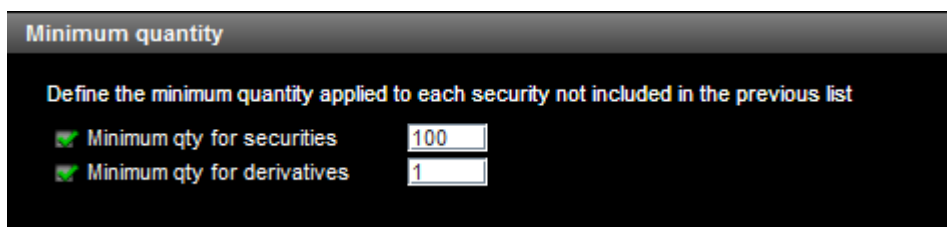
By clicking on the <Edit> button, the relevant pop-up opens:



Enter the instrument symbol in the first box; otherwise, if the symbol is not recognised, you can use the Symbol Search by clicking on the magnifying glass. The button with the double arrow confirms the data, displaying the description of the instrument in the central part of the pop-up.

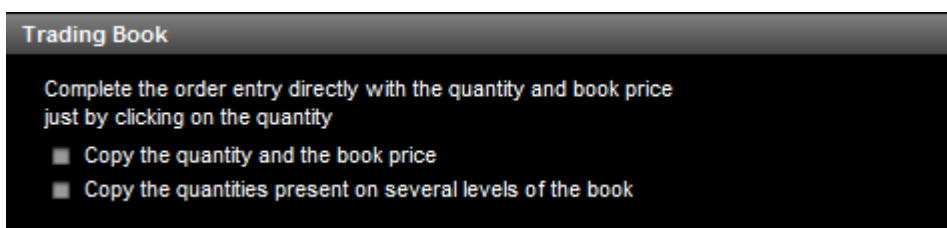
You can then enter the quantity that you require to appear by default in the order entry window, the intraday or overnight margin that you wish to use and finally the minimum quantity of shares with which you wish to vary the initial order in the quantity column of the description cell. The <X> key deletes the values entered in the corresponding row.

You can also set the **general minimum quantity** valid for all securities and derivatives excluding the 10 securities you have already set:



Book Trading is an option that allows you to speed up filling in the Order Entry window. You can copy the quantity plus the price for a specific book level by simply clicking on the quantity, or you can copy the quantities present on several levels of the book.

This is in addition to the normal integration between Book and Order Entry, where the price is automatically copied into the Order Entry window with a single click on the Book price.



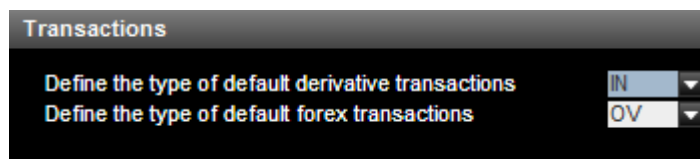
Vertical Book

By activating the anchor to the last price, the "last" price will always remain at the centre of the window in the vertical book.

Trading

This option allows you to set pre-defined trading on derivatives.

You can choose between intraday and overnight margin trading.

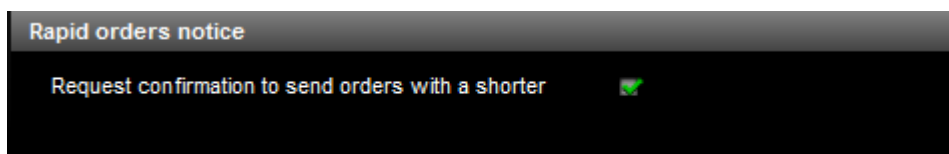


The 'Transactions' window contains two settings:

- Define the type of default derivative transactions: **IN** (dropdown menu)
- Define the type of default forex transactions: **OV** (dropdown menu)

Close Orders Notice

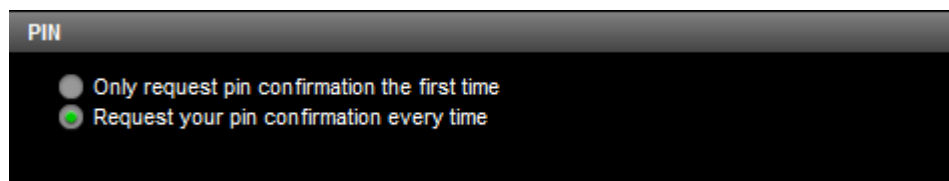
This option allows you to be notified when several orders are entered on the same instrument within a short space of time.



The 'Rapid orders notice' window has one setting:

- Request confirmation to send orders with a shorter: ☒ (checkbox with green checkmark)

You can define the **PIN confirmation** frequency in the same section: the PIN can be requested for each transaction or only the first time. If you choose the second option, it is valid until PowerDesk is open: closing PowerDesk means that the PIN will need to be re-entered for the next new order:



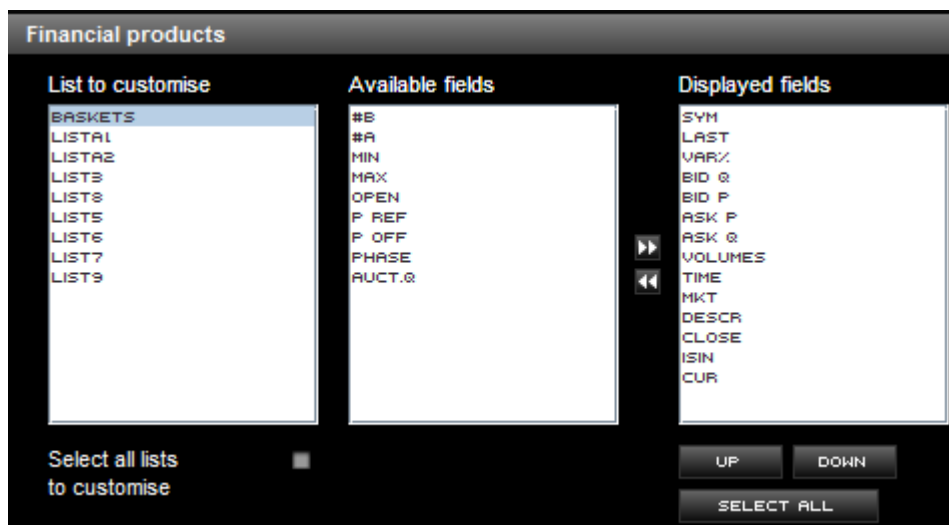
The 'PIN' window has two radio button options:

- ☐ Only request pin confirmation the first time
- ☒ Request your pin confirmation every time

> Watchlist

On opening PowerDesk, you will notice that the platform is already pre-set with some lists of securities (share baskets, Italian and foreign futures, bond baskets, Forex, Options and CFDs on Indices) which show specific contents. To change the order or the contents of the securities lists, you can use the window in this section of the Preferences:

By clicking on the contents of the three boxes to highlight them, you can organise the contents of the individual lists:



To reorganise the columns in your Watchlist without changing their contents, you can use Drag and Drop directly on the platform. To use **Drag & Drop**, simply select the label of the column you wish to move and drag it with the mouse to the desired position.

Selecting the Phase field allows you to view the parameters of the various market phases provided by the Borsa Italiana (LSE Group) market trading service:

Parameter	Description
ACO	Opening auction
ACC	Closing auction
CNT	Continuous trading
PXO	Volatility auction due to lack of validation of the theoretical auction price
PXIN	Pre-volatility auction during continuous trading
PXI	Volatility auction
INI	Service opening or pre-trading
FRC	Period of inactivity during the closing auction
CLS	Market closure
ADM	Service administration phase
VWP	last 10 minutes of the continuous trading phase
EOD	Service closure

In addition, you can select the function to be displayed at the end of each security string, choosing from: Chart, Covered warrant, Vertical Book or PowerBoard.

Select the functions to be displayed PowerBoard Chart

To delete the securities included in a customised list, simply select the name on the list and click on the <Delete> button:

Customised lists

Delete your customised lists

- ☐ UK
- ☐ FX
- ☐ USA
- ☐ BOND
- ☐ PAUL
- ☐ JOHN
- ☐ LT
- ☐ LIST9

SELECT ALL

CANCEL

To delete all the contents of all the securities lists, first click on the <Select all> button and then on <Delete>.

Finally, you can define the content of the options list columns:

Option list

Define the column content of the list

SYMBOL ; BID Q ; BID P ; ASK P ; ASK Q
; PC ; VOL ; TIME ;

MODIFY

> Screen

In PowerDesk you can download screen and portfolio data as an Excel file or in a csv format, setting the directory for saving the data.

Saving data

Select the format: XLS

Set the default directory for the export of monitor and portfolio data to Excel:

C:/powerdesk2 BROWSE

Define the separator of the information:

You can also define the number of days to be displayed in the order screen.

Other options

Select the number of days to be displayed in the orders screen: 0

☒ Activate colour order status display mode

The orders status can also be customised in the order screen, whose visibility can be increased by colouring the background.

> PowerBoard

PowerBoard consists of 4 sections: Book, News, Screen and Chart. You can choose which sections to activate from this preferences area. Note: PowerBoard is programmed to be a modular mini-platform, therefore, when it is opened from PD2, its sections can be activated or deactivated independently from the settings given in the Preferences.

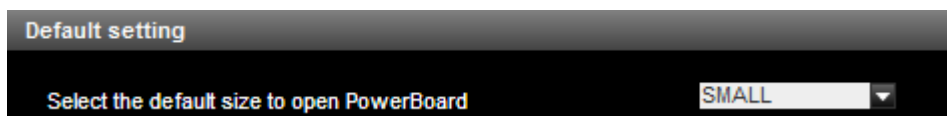
Default view

Select the items you want to display by default in PowerBoard

- ☐ News
- ☐ Monitor
- ☐ Chart

SELECT ALL

You can also choose the pre-defined size with which to open PowerBoard.



2.c. Market Bar

Market Bar is the fully customisable ticker with push notifications. It can contain financial products chosen among Shares, Futures, Indices and Currencies.

DAX30	10643,880	-1,05%
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The security performance information displays the last price and the percentage change in relation to the previous day's closing. Click on the security symbol to open PowerChart.

2.d. Watchlist

The PowerDesk watchlist consists of pre-defined baskets, eight customisable lists and the Best & Worst function. The market baskets are divided into: UK shares (Ftse100, Ftse 250)

US shares (Dow Jones 30 and Nasdaq100),

European shares (France, Germany, UK, Spain, Switzerland, Portugal, The Netherlands and Finland),

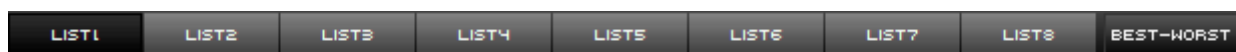
CFDs on Indices

Futures (Idem, Eurex and CME),

Bonds (MOT and TLX),

Forex,

Options.



Each customisable list can contain up to a maximum of 50 products including Shares, Bonds, Futures, ETFs, Options, CWs, Currencies and CFDs, without any restriction.


The Best-Worst function is located next to the last customisable list.

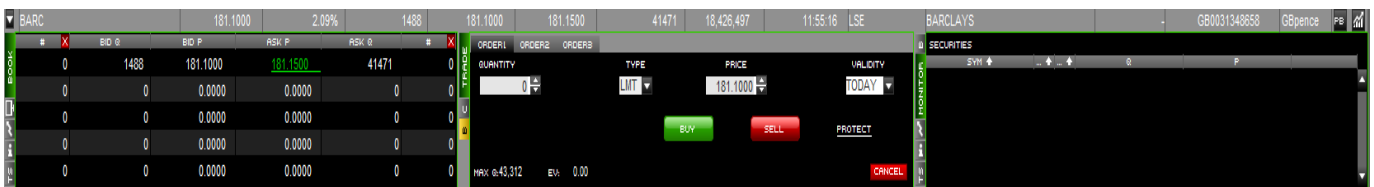


This function allows you to create lists of securities ordered according to:

- the best or worst percentage variation;
- the higher or lower equivalent values;
- the higher or lower volumes.

You can choose to compare all the securities on the markets available on PowerDesk or you can use the Country, Market or Type filters for more specific searches.

Clicking on the relevant arrow in each row , opens the security details, whose description can be found in the dedicated section.



Each security row displays a button (customisable from the preferences panel) which allows you to open:

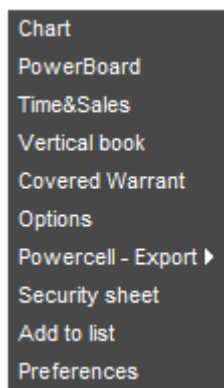
PowerChart, the technical analysis chart relating to the security

CW, the list of Covered Warrants of the security (this is only present if the security is the underlying of a CW)

PowerBoard, the modular platform of the specific security

Vertical Book



These functions can be activated by right-clicking the mouse:



To **add an instrument** to the customised list, you can use the keypad located at the bottom left of the platform:

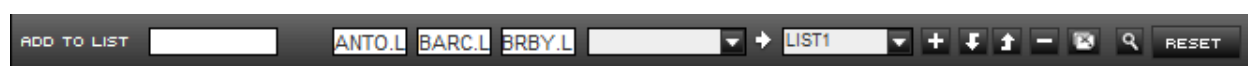


By entering the symbol or name in the security field and the reference market you can enter the desired instrument in the customised list immediately, selecting it from the specific drop-down menu.


If you do not know the symbol/name, simply click on the button marked by a magnifying glass  which opens the full search pop-up (working details of the search function are given in the paragraph). When you have found the symbol, simply click on the <Add> button in order to add the corresponding instrument to the list .

The new instrument will be entered at the bottom of the selected customised list.

Moreover, to **copy several instruments** in one of the pre-defined lists, just open the pre-defined list, keep the CTRL key on the keyboard pressed and use the mouse to select the rows (i.e. the instruments) that you wish to copy. Or press the Shift key and drag the mouse to select up to 15 consecutive rows. The symbols appear inside the cells at the bottom of the Watchlist.



Then select the list on which you wish to copy the symbols and click on the <Add> key .


- To **remove a security** from the customised list, simply select the securities you wish to remove, press the CTRL key and drag the mouse and then click on the <Delete symbols> button . The button can be found either at the top right of the platform or at the bottom of each customised list. In the same manner used for adding symbols, you can use the CTRL and SHIFT keys to make multiple selections.

You can also cancel the contents of several Watchlists at the same time with just a few clicks in the Preferences window, in the dedicated Watchlist section.

- To **move securities** press the CTRL key and select the securities, then use the <Move symbols> buttons



. By clicking on the arrows, the securities are moved up or down.

- To **reset each selection**, use the <Reset>  button, which deletes the selected securities displayed at the bottom of the Watchlist.

- To **assign a name** to each customised list simply right-click the mouse on the header (e.g. List 10) and enter the name you would like.

- To **change the order of the columns** in the Watchlist, use Drag and Drop or open preferences in the Watchlist section.

- To **sort the rows** according to the most appropriate criteria, click on the column header with the arrow. The columns which allow sorting rows are: market, symbol, percentage change, volumes and time. NOTE: changes made to the Watchlist are saved automatically.

2.e. Symbol search

You can access the securities search in PowerDesk by using the button .

The top row of the window has commands which allow improved filtering of the search. To find a symbol you should:

- Indicate the type of instrument that you are searching for: Shares, Indices, Derivatives and Currencies

- Enter the name or symbol through which you want to search in the first field

- Select the symbol or name filter

- Trading market: MTA, Milan MCW, NYSE, Nasdaq, Amex, France, Germany, The Netherlands, Portugal, Spain, Switzerland and United Kingdom.

and then click on the <Search> button .

ADVANCED SEARCH

NAME

EQUITIES

CURRENCIES

CFD

FUTURES

CW

BONDS

ETF

ETC

INDICES

Symbol or name

Market

Type

All


Click on find to start your search

+

in

LIST1

POWERCELL

The search provides a list of instruments if the symbol is not unique. However, if the symbol is unique, you need to select the instrument in the list and click on the <Add> button  in order to add the instrument to the customised Watchlist or on <PowerCell> in order to copy the master record of the instrument into Excel and use it for dynamic updates through DDE.

You can search by product (shares, currencies, CFDs, futures, CWs, bonds, ETFs, etc. and indices).

If you are searching for derivatives and currencies, the search is easier: for example, by selecting "Derivatives" the search immediately returns all the futures active at that time.

ADVANCED SEARCH					
NAME	Market				
EQUITIES	All				
CURRENCIES					
CFD	SYM	Name	TYPE	MKT	
FUTURES	NQZ6	MININASDAQ DEC16	Future	CME	+
CH	NQH7	MININASDAQ MAR17	Future	CME	+
BONDS	ESZ6	MINISP500 DEC16	Future	CME	+
ETF	ESH7	MINISP500 MAR17	Future	CME	+
ETC	NKDZ6	NIKKEI DOLBAS DEC16	Future	CME	+
INDICES	NKDZ7	NIKKEI DOLBAS MAR17	Future	CME	+
	QMX6	E-MINICRUDEOIL NOV16	Future	CME	+
	QMZ6	E-MINICRUDEOIL DEC16	Future	CME	+
	QGX6	E-MININATURGAS NOV16	Future	CME	+
	QGZ6	E-MININATURGAS DEC16	Future	CME	+
	6EZ6	EUROFX DEC16	Future	CME	+
	6EH7	EUROFX MAR17	Future	CME	+
	E7Z6	MINIEUROFX DEC16	Future	CME	+
	E7H7	MINIEUROFX MAR17	Future	CME	+
	6SZ6	SWISSFRANC DEC16	Future	CME	+
	6SH7	SWISSFRANC MAR17	Future	CME	+
	6BZ6	BRITISHPOUNDS DEC16	Future	CME	+
	6BH7	BRITISHPOUNDS MAR17	Future	CME	+
	6AZ6	AUDUSD DEC16	Future	CME	+
	6AH7	AUDUSD MAR17	Future	CME	+
	6CZ6	CADUSD DEC16	Future	CME	+
	6CH7	CADUSD MAR17	Future	CME	+
	6JZ6	JAPANESE YEN DEC16	Future	CME	+
	6JH7	JAPANESE YEN MAR17	Future	CME	+
	QOZ6	MINI GOLD DEC16	Future	CME	+
	QOG7	MINI GOLD FEB17	Future	CME	+
	YMZ6	E-MINI DOW DEC16	Future	CME	+
	YMH7	E-MINI DOW MAR17	Future	CME	+
	CLX6	LIGHT SW CROIL NOV16	Future	CME	+
	CLZ6	LIGHT SW CROIL DEC16	Future	CME	+
	WQZ6	WY HARBOR WLSO NOV16	Future	CME	+

2.f. Security details

To view the details of a security, simply click on the button with the arrow at the start of each row in the securities lists.

The central part of the expanded row contains the **order entry screens**, concerning which there is a specific paragraph (Trade View and Conditional Orders).

The two equal-sized side-by-side and modular sections can contain Book, Tick by Tick or Spread Bid & Ask Charts, Screens, News and Time & Sales. Every detail can be customised by clicking on the vertical label at the left of each section.

- The **Book** displays in real time the five best bid and ask price proposals on the market. The Book is always connected with the order entry window. To activate the Trading Book and increase the level of integration between the Book and the order entry screen, simply open "Preferences" and set its details.

- The **Screen** records all orders on the security entered during the day. It is divided into tabs according to the trading permitted on the instrument: securities if the details are for a share, Derivatives trading for Futures.

- The **tick-by-tick chart** is built on the Last price or on the updated bid/ask Spread, with push notifications when the Book is updated.

- **News** is filtered for the specific security. To read the full text of the news item, just click on the title and open the pop-up.

- **Time & Sales** is the table that allows you to see all the contracts exchanged on a security.

To go back to the compact mode of the details row, simply click on the button again.

2.g. Indices

Indices

The most important national and international indices updated in real time: symbol, last price, percentage change in respect of the previous day's closing, day maximum and minimum and minute of the last update.

There is also a thermometer which tracks index performance: the distance of the last quote from the maximum is given in red, in green from the minimum, and the triangle indicates the day's opening. Click on the symbol to open the technical analysis chart.

When PowerDesk opens, this information block is in the bottom left panel: to move it, you need to open the preferences window in the general section.

2.h. News

News is provided by Reuters, MF Dow Jones News in real time. Click on a news headline to open a window with the full text.

To filter news, enter the symbol in the specific "SYM" box and click on the **<Filter>** button. In the security details and in PowerBoard the filter on the financial instrument has already been applied.

When PowerDesk opens, the general news is in the bottom left panel: to modify it, open the preferences window in the general section.

TIME	SECURITY
12:02-20/10	*TOP NEWS*-U.S. Companies
12:02-20/10	US GOVTS: Marginally lower as mkts wait for ECB
12:01-20/10	*TOP NEWS* Africa
12:01-20/10	ADVENT INTERNATIONAL ADDS TRICIA PATRICK AS...
12:01-20/10	INVESTMENT-LINKED FUNDS - 2: OCT 20
12:01-20/10	INVESTMENT-LINKED FUNDS - 1: OCT 20
12:01-20/10	REG-KCG ANNOUNCES THIRD QUARTER 2016 RES...
12:01-20/10	MALAYSIAN GOVERNMENT SECURITIES (MGS): OCT...
12:01-20/10	Chesswood Group Limited Announces October 2016 ...
12:01-20/10	Outage or limitation/Transmission/Planned maintenanc...
12:01-20/10	BNM'S FINTECH SANDBOX GIVES GREAT OPPURTU...
12:01-20/10	Verb Surgical Inc. Honored by Goldman Sachs for Entr...
12:00-20/10	First Asset Closed-End Funds October Distributions...















2.i. Spread

The Spread view shows the 10-year yields of the main global government bonds.


The spread value represents the difference in index points between the two bonds.

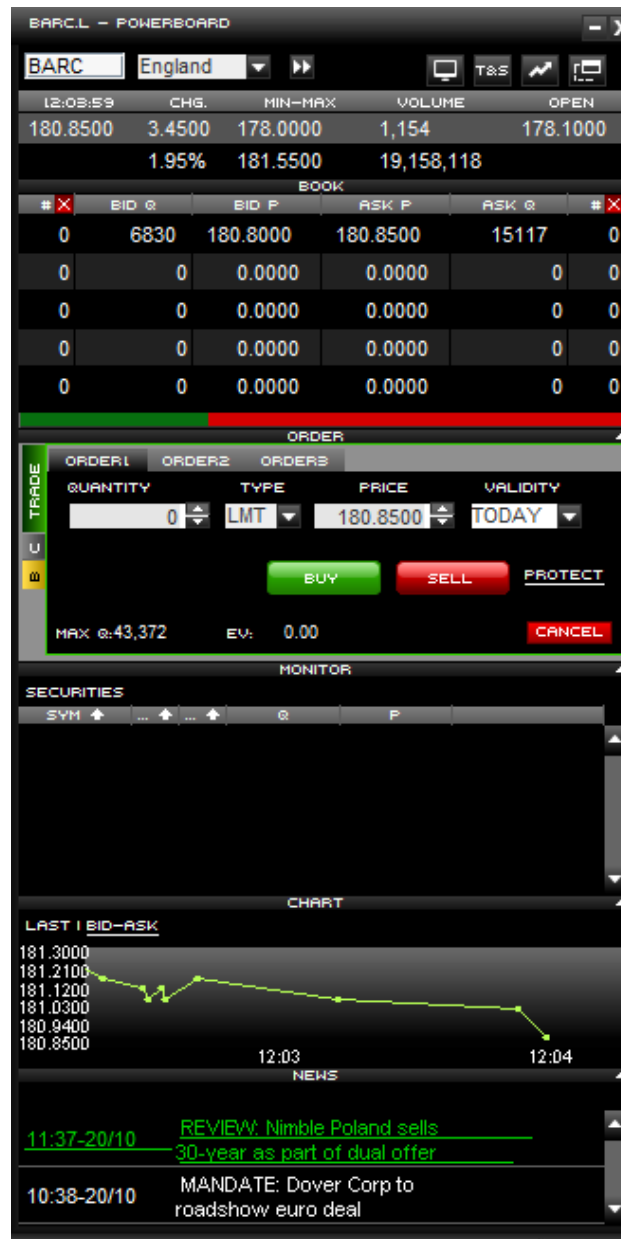
The %var indicates the increase or decrease of the spread since the previous day (close).

Minimum, maximum and open refer to the current day.

SPREAD							
DESCRIPTION	SPREAD	VAR%	MIN	MAX	OPEN	CLOSE	CH...
UK/Italy	-35.00	-3.58%	-37.20	-33.90	-36.00	-36.30	
UK/Germany	106.20	0.95%	104.00	107.50	104.70	105.20	
Italy/Germany	140.60	-0.21%	139.30	141.80	140.40	140.90	
Spain/Germany	107.50	0.09%	106.20	108.80	106.90	107.40	
France/Germany	27.40	4.98%	24.80	27.60	27.50	26.10	
US/Germany	170.91	-0.23%	169.69	172.71	171.65	171.30	
Portugal/Germany	309.40	-1.59%	308.40	315.30	313.90	314.40	
Greece/Germany	824.40	-0.11%	814.20	826.80	824.80	825.30	
Japan/Germany	-11.90	23.96%	-13.30	-9.30	-9.50	-9.60	
Italy/Greece	-699.40	-0.09%	-717.50	-698.30	-700.20	-700.00	
Italy/Portugal	-171.40	-2.61%	-178.40	-171.10	-176.20	-176.00	
Italy/Spain	32.30	7.67%	29.10	32.90	29.80	30.00	
Usa/Italy	29.71	-0.30%	28.88	31.21	30.15	29.80	
Japan/Italy	-153.10	1.32%	-154.10	-150.80	-151.00	-151.10	

2.1. PowerBoard

PowerBoard is an independent platform where you can also change the symbol directly. PowerBoard is integrated with the platform and the Preferences you have set. To open PowerBoard, click on the  button in the security row in the Watchlist (if set as a function to be displayed in the security row) or right-click the mouse and choose PowerBoard from the drop-down menu.



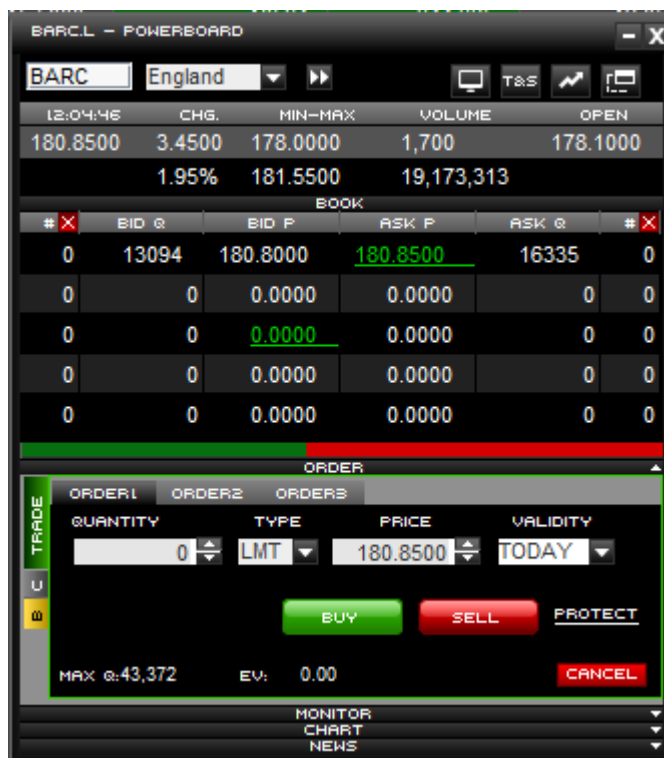
PowerBoard is modular and consists of 4 parts:

- The **Book** is always connected to the order entry window. To activate the Trading Book and increase the level of integration between the Book and the order entry screen, simply open "Preferences" and set its details.
- The **Screen** records all orders on the security entered during the day. It is divided into tabs related to the trading allowed on the security.

- The **chart** is tick-by-tick or bid/ask spread, updated with push notifications, when the Book is updated.

- **News** is filtered for the security. To read the full text of the news, just click on the news headline.

Each section described above can be deactivated by the arrow, located at the top right of each section, until you reach the security and order entry windows.



With PowerBoard all trading is in any case ensured even in the most basic section: ordinary, margin trading and on Derivatives, either through the displayed real-time information or through the two Order Entry screens: Trade View and window for conditional orders.

There are two methods to **change the financial instrument**:

- type in the symbol of the new instrument in the symbol entry area.
- drag the symbol from the Watchlist, screen or PD2 portfolio using Drag & Drop inside the PowerBoard window.

NOTE: you can **open up to 50 PowerBoards** at the same time if the computer meets the necessary requirements.

You can expand or shrink each PowerBoard simply by selecting the bottom right corner.

2.m. Vertical Book

The Vertical Book is activated by clicking on the  button in the security row, or from the drop-down menu opened by right-clicking the mouse. **10 price levels** are displayed when the Book is opened: 5 levels below and 5 above the last price. The quantity and number of proposals are indicated for the first 5 levels above and below the last price.

The quantity and number of proposals for each level are displayed to the right and left of the central column. The first five bid and ask levels scroll up or down following the security's performance. To enlarge or shrink the window, just select the bottom right corner and choose the preferred size.

In Preferences, you can select to anchor the last price in the centre of the window or to keep the price bar fixed regardless of the security transactions.

Trading:


- Set the quantity traded and the trading type (standard, Intraday margin trading - Overnight margin trading).
- To buy, just click the mouse on a specific level in the Bid quantity column; to sell, just click on the fields of the Ask quantity column corresponding to specific price levels.
- By clicking on a price level above the last (in the Bid quantity column), a buy order is sent to market at the selected price; however, by clicking on a price level below the last in the Ask quantity column, a sell order is sent to market with the selected price.
- The first column on the left (ORDERS) is a useful screen that displays the quantities of the orders entered on the market.
- Just click on the quantities entered in the "ORD" column to cancel all orders entered in the market quickly.
- Under the book there is a screen in which you can follow the details of each order and cancel these if necessary.

The Vertical Book is an independent mini-platform on which you can view every security by dragging the symbol with Drag & Drop

Important! By clicking on the quantities column, the order is entered immediately on the market, without a confirmation window.

2.n. Time and Sales

Time & Sales is the table that allows you to see all the contracts made on a security.

Time & Sales can be activated by clicking on the  button, therefore from the Vertical Book, PowerBoard and Order Entry in the expanded row of each security (by clicking on the button from the two side windows).

After activation, the individual trades are gradually displayed showing the time, price, quantity and change from the previous contract.

To avoid excessive consumption of the PC's memory, by default the table shows up to the **last 10** trades made. Using the specific drop-down menu at the bottom, you can choose to display up to the last 1000 contracts.

Time & Sales is developed in a pop-up which can be expanded as desired from the bottom edge. The instrument is totally independent from the security from which it was activated and is automatically updated even when working on other instruments or markets.

2.o. Price alerts

The Alert service advises you when a security in the Portfolio or one that you are monitoring reaches a certain **price level**. You can therefore monitor securities even when you are not in front of your computer. You need to configure a condition (e.g. "If the price of the ABC security drops below 3.2 Euros"), enter the date by when the event has to happen and indicate how you want to be alerted: **By pop-up, email or Texts**. Moreover PowerDesk allows you to write a short message which will be sent to you with the alert.

There are **30 price alerts** available in PowerDesk. Setting an alert is very easy and it is done directly in the dedicated "Alert" screen:

MONITOR

ALERT&SETTINGS

P & L

BASKET

ALERT | CONDITIONS

STATUS **ACT**

ON	SYM			VALIDITY	DELIVERY	NOTES	
<input checked="" type="checkbox"/>	ESZ6.CME	>	2150.0000	20/10/2016	EMAIL	Future	-
<input checked="" type="checkbox"/>	BT.L	>	390.0000	20/10/2016	POPUP	cancel order	-
<input checked="" type="checkbox"/>	III.L	<	640.0000	20/10/2016	SMS	insert stop	-
<input checked="" type="checkbox"/>	BARC.L	>	185.0000	20/10/2016	POPUP		-



- Type in the symbol in the cell
- Set the event: i.e. the price must be higher than, higher than/equal to, less than or less than/equal to a specific reference price.

- Define the validity of the alert.
- Select how you want to be alerted of the event's occurrence.
- Write a message (maximum 50 characters) if you wish, to be received at the same time as the alert message.
- Activate the row in the ON column.

You can set an alert for a price being reached on any Italian or international security.

NOTE: thanks to the (ON/OFF) option on the platform, you can pre-configure alerts and activate them only at the appropriate time. If you wish to link the alert to automatically entering an order, you need to set a conditional order (see the relevant paragraphs for the details).

2.p. Acoustic alert and pop-ups

You can select the two functions from the securities screen header by using the two dedicated buttons . If the two icons are crossed out, the functions are not active .

By clicking on the **bell** button you can receive an acoustic alert for every executed order.

Whereas, by clicking on the left-hand button, each time an order is executed, a **pop-up** opens summarising all the details of the executed order.

When both functions are activated, the acoustic alert sounds at the same time as the summary pop-up appears.

2.q. Chart customisations

You can personalise some of the platform's graphic elements from the PowerDesk Preferences panel:

- a. the character size choosing from three different pre-defined sizes: large, medium and small
- b. the background colour and how to highlight each price update
- c. "always on-top": by flagging the function, each pop-up that opens will always stay on top

Chart settings

Preferred colour scheme

Black

Lights up on price change

background

Turn off the cell automatically after each update

☒ Yes
☐ No

Sleep time (milliseconds)

500

Other configurations

Font size

SMALL

View the balance?

☒


Always place pop-ups "on top"?

☒


2.r. Expandable monitor and portfolio

The order monitor and portfolio can be expanded by selecting and dragging the edge of each panel sideways

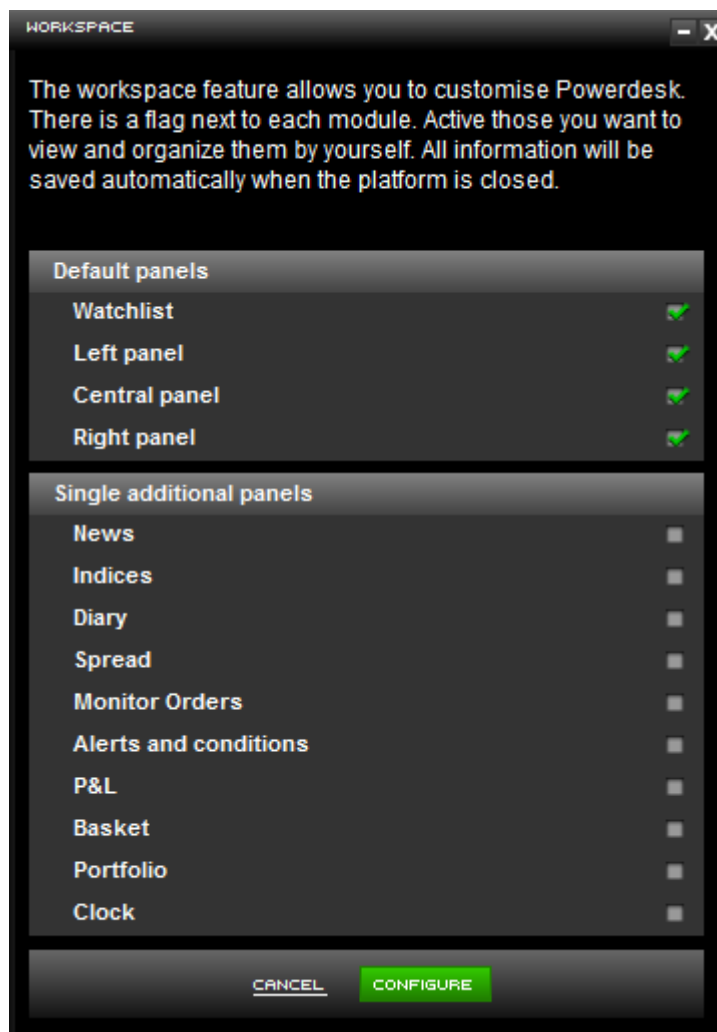
2.s. Ranking

By clicking on the  **RANKING** button, you can dynamically sort (with push notifications, at each price change) the securities in each list. For example, you can sort the securities by percentage change or by the time of the last price (in this case you can decide to show the security that was last traded on the top row of the list)

WORKSPACE

Using the  **WORKSPACE** function you can create a completely customised workspace. By activating the workspace the main components are broken down into single panels, whose shape and size can be managed according to your needs.

By clicking on the  **WORKSPACE** button a pop-up opens with the choice of the modules you wish to view:



DEFAULT PANELS:

- **Watchlist:** contains the 8 customised lists, pre-defined baskets and management bar

- **LH multifunction panel:** the content of this panel can be customised from preferences.

By default it contains the News, Indices and the Spread view.


- **Central multifunction panel:** it consists of the screen, the "alerts and conditional orders" section, the P&L and the BASKET.


- **RH multifunction panel:** the content of this panel can be customised from preferences.



By default it contains the Portfolio

SINGLE ADDITIONAL PANELS:

- by selecting one or more single panels, you can duplicate the functions inside the "default panel" macro groups.

Inside each panel there is a "duplicate" button which allows you to add an additional panel of the single section ; in this way for example you can create more than one portfolio or several order screens.

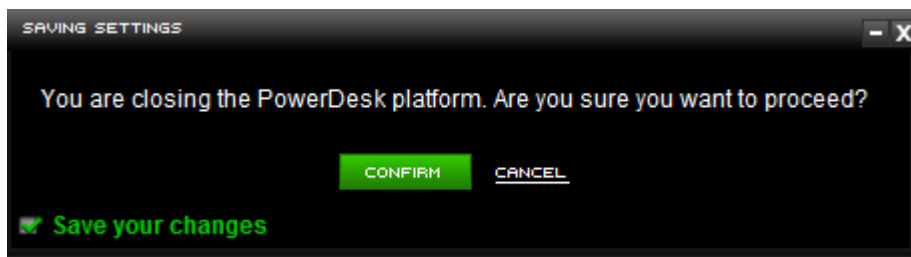
- When clicking on this button  the platform is broken up, and additional panels are created in the centre.

The single panels can be reduced to icons by using the  button. All the components can also be minimised using the same button  on the control bar at the top of the platform:





The workspace also allows you to use several screens, managing all the panels as individual platform structures.

Note: When you close the platform, you will be asked whether you want to save the changes made.



The changes are saved on the Fineco server so you will be able to access the customised PowerDesk regardless of the PC you are using.

In any case, you can restore the default version at any time from the Preferences panel.

To return to the "Fixed" or standard structure, just click on the  button and confirm by pressing. 

Should the standard structure be recreated, but you do not wish to lose what has been saved in the Workspace, you need to uncheck automatic save in the platform closure pop-up. Otherwise, the changes will be overwritten saving the fixed structure.

3. Standard trading

Standard trading means buying and selling securities where the total equivalent value of the transaction (Price x Quantity of financial product ABC) is taken in full from the current account, after checking that the liquidity is actually available.

3.a. Entering an order

With PowerDesk orders can be entered in several dedicated windows:

- In the **security details** in the securities list and in **PowerBoard**
- The window to manage the position can be seen in the position details in the **securities portfolio**.

For example, let's look at entering orders using the Order Entry Trade View.

1. **Quantity:** the number of shares/contracts you wish to buy/sell

2. **Type:** refers to the type of order:

- Limit (**LMT**). A limit order allows you to determine both the maximum price you wish to pay for a buy transaction and the minimum price for a sell transaction: execution of the order is therefore not guaranteed.

- Market (**MKT**). This order ensures that the order is executed, scanning the Book until the specified quantity has been ordered. In addition, this type of order has been managed in a different way by Borsa Italiana since 10 November 2008.- "Market" orders that are valid **exclusively for the auction phase** (opening, volatility and closing) and market orders that can be used for the continuous trading phase are available. The latter must have an additional parameter, which can be IOC (immediate or cancel) or FOK (fill or kill).

Remember that an IOC (immediate or cancel) market order seeks to fulfil the quantity entered on all the book levels and if this quantity should be insufficient, it cancels the surplus part of the order. However, FOK (fill or kill) market orders are cancelled in full if the full quantity entered is not met.

Note: Any IOC or FOK "market" orders entered during the auction phase (opening, volatility, closing) will be refused by the system. If you use an auction-market order during the continuous trading phase, the order will be refused by the system.

After-Hours Trading

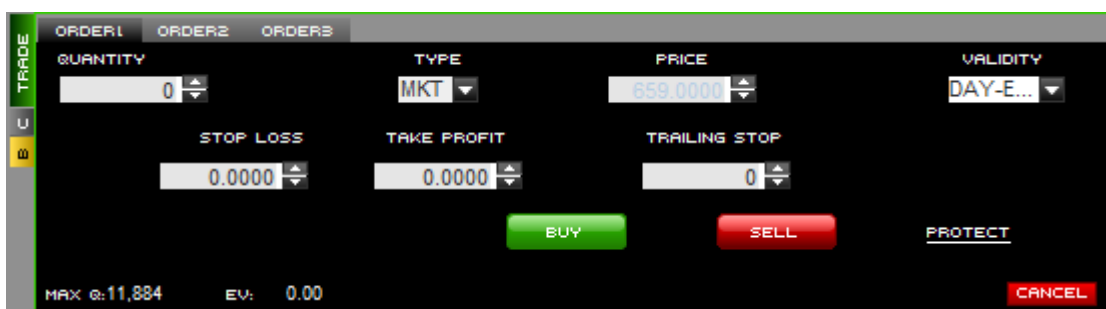
During AHT, the same parameters as those available during continuous trading will be available, but they will have different features:

- A "market" order (IOC or FOK) corresponds to sending an STF (sweep to fill) order, which scans all the book levels to meet the full quantity of the order;
- an "(auction) market" order corresponds to sending an order that only "hits" the first level of the book.

3. **Price:** the level at which the order is sent to market. If a "market" order is selected, the price field is deactivated.

4. **Order validity:** you can select the expiry date of the order (from today or for 30 days).

5. **SL-TP link:** allows you to set conditions to protect orders during the entry phase. By clicking on the link, the window expands to give the option of entering Stop Loss, Take Profit and Trailing Stop conditions. You can enter just one or a combination of these conditions to protect your order in the best way.



For each value entered in the Stop Loss, Take Profit and Trailing Stop boxes, the corresponding estimated Loss, Profit or Max Loss value is respectively displayed. These estimates are displayed individually according to where the mouse cursor is placed (for example, in the figure above, the Loss value corresponding to the value entered in the Stop Loss box is shown). The Loss and Profit values displayed are calculated as the difference between the value entered in the Price box (the last price for market orders entered) and the corresponding values entered in the Stop Loss and Take Profit boxes. The Max Loss value displayed for the Trailing Stop, however, is calculated as the difference between the value entered in the Price box (the last price for market orders entered) and the number of ticks entered for the value of the single tick.

Note: These values are expressed as absolute values and are purely indicative. In particular market conditions, for example in the case of thinly traded securities or when there is a strong volatility, these values might not correspond to the actual results of the individual transactions.

It will be possible to see the correct Loss and Profit values associated with the values entered in the Stop Loss, Take Profit and Trailing Stop boxes only after choosing the transaction sign (buy/sell) and after the order is executed. These values can be seen inside the pop-up brought up by clicking on the SL-TP button in the Order screen.

Additional information:

- Max Qty Purchasable indicates the maximum quantity that can be bought in relation to the liquidity available at that time.
- EV indicates the equivalent value of the transaction.
- Stop (margin trading) indicates the threshold percentage of Fineco's automatic stop loss.
- Marg indicates the equivalent value of the margin deposited in order to guarantee the transaction.
- Rate indicates the values of the rates applied by Fineco for long and short multiday transactions.

Management of available funds

Entering an order involves reserving funds. Executing the order makes liquidity unavailable; alternatively, if the order is cancelled, the reserved liquidity is returned to the available balance.

Example of opening a position on an American security:

1. PowerDesk shows the balance available together with the reserved funds updated in real time.
2. When entering one or more orders, the liquidity required for their execution is reserved (e.g. 2,206.29 €).

Balance	GBP ▼	78,438.75€	Book.Ass.	0.00€
---------	-------	------------	-----------	-------

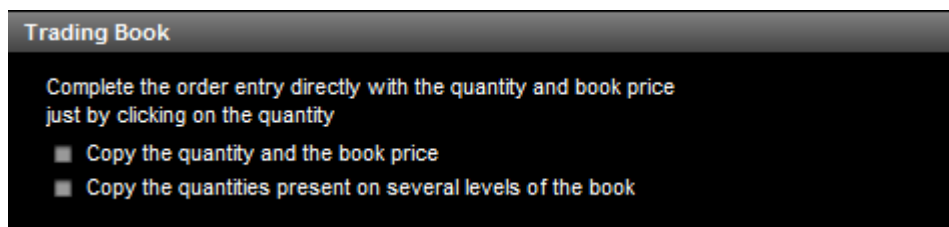
3. When the order is executed the reserved funds are subtracted from the available balance.

3.b. Trading Book

PowerDesk integrates the quotes shown in the Book with the order entry windows in several ways:

- a. By clicking on the price in the Book, this price is entered in the Order Entry price field, regardless of which order entry window is being used (Trade View or conditional orders window).

b. In Preferences you can activate a further option to fill in the order entry screen even faster. By selecting the Trading Book and clicking on the quantity in the Book, the Order Entry window is automatically filled in with the quantity and the price corresponding to that Book level.



3.c. Iceberg Orders

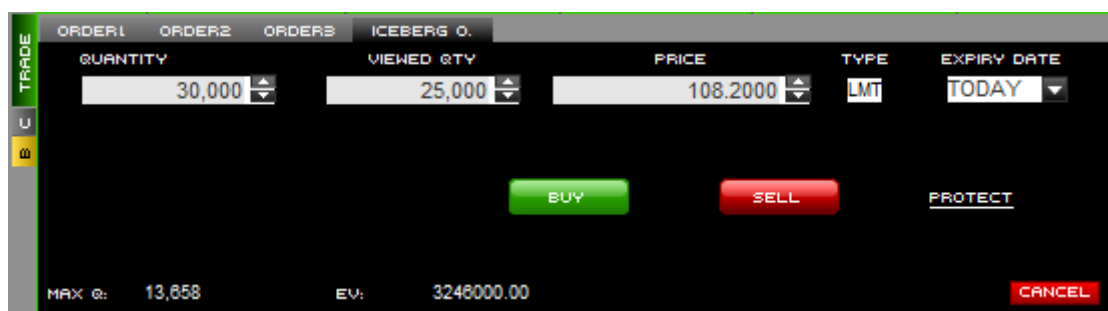
This function, also called "asterisked order", only allows you to see a partial quantity of the overall order entered on the market in the Book.

How does it work? Fineco sends the orders in successive steps to the market (and to the Book) according to the quantity that you choose to view. This quantity depends on the single instrument and is available inside the Borsa Italiana website. The quantity shown (defined by the market Minimum Peak Size) equals:

$$\text{EMS (Exchange Market Size)} * \text{Multiplier}$$

when the first quantity is executed, a new proposal is automatically entered for the same quantity and so on until the order is entirely executed.

To trade, click on "Iceberg" inside the Order Entry (this is also possible in PowerBoard). At this point, you need to indicate the quantity that you wish to be displayed in addition to the total quantity of the order:



Iceberg Orders can only be entered at "price limit" and the minimum quantity shown must be equal to the value stated by Borsa Italiana. The files indicating the minimum quantities that can be displayed for each type of instrument traded can be found in the Help section of the website:

(MTA) Shares
ETF
Bonds (MOT)
Certificates and Covered Warrants

Note: Should an incorrect minimum quantity displayed (QVM) be entered, the order will be refused by the market.

As far as Bonds, Certificates and CWs are concerned, remember that, while the minimum quantity shown is equal to the one which may be found on the www.borsaitaliana.it website, should you want to enter higher "iceberg" quantities, these simply need to be equal to the QVM increased by the minimum lot or by its multiples. For Shares and ETFs, since the minimum lot is always equal to 1 share, it is sufficient that the quantity shown should be greater than or equal to the QVM. When the market conditions change, Borsa Italiana may change the EMS values. The updated data can be seen here:

<http://www.borsaitaliana.it/borsaitaliana/regolamenti/avvisi/avvisialregolamentodeimercatiealleistruzioni.htm>

Finally, the multipliers currently applied by Borsa Italiana are shown below:

Instruments	Multiplier
Shares and ETFs	0,4
Bonds (MOT)	0,4
Certificates and CWs (SEDEX)	0,4


The quantity shown must be a whole value ranging between a minimum (defined according to the methods described above) and the total equivalent value of the proposal. E.g.: for A2A the minimum quantity shown will be $24,000 * 0.4 = 9,600$.

Iceberg Orders are identified in the order screen with orange writing in the quantity entered field. By clicking on the status of the order (e.g.: EN, EX, IQ, CA, BQ) the summary data sheet is displayed with the details of the quantity shown.

3.d. Cancelling an order

To cancel an order, the order status must be entered, in the queue, to be queued or partially executed.

It is cancelled by clicking on the specific button  in the Securities Order Screen.

If the order has been partially executed (PE), clicking on the  button cancels only the non-executed part of the order


When an order is cancelled, the funds reserved for the transaction are immediately credited back to the available balance.

PowerDesk offers some advanced cancellation functions:

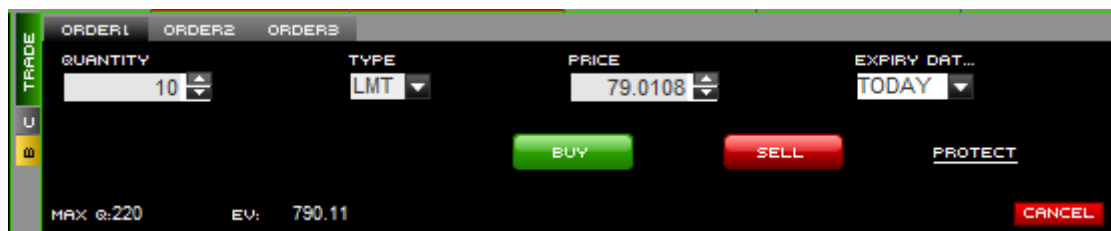
a. cancelling an order directly from the book


#	X	BID Q	BID P	ASK P	ASK Q	#	X
0		8111	6.0600	6.0620	1760	0	
0		4326	6.0590	6.0630	777	0	
0		6418	6.0580	6.0640	3461	0	
0		13016	6.0570	6.0650	14468	0	
0		7907	6.0560	6.0660	9603	0	

For each order entered, the corresponding book level is lit up (in this case in sky blue). To cancel the order, simply click on the proposals column relating to the single level.

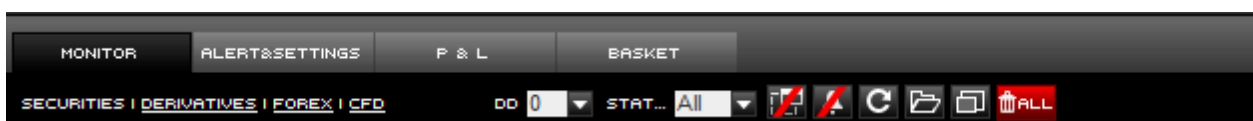
One or more entered proposals can be cancelled by clicking on the  button placed above the quantity of buyers/sellers. Clicking on the buy proposals button exclusively cancels bid order/s.


b. cancelling all orders entered on a security



Clicking on the  button present in all the order entry screens cancels all orders entered at that time on a specific security


d. cancelling all orders entered on any financial instrument








Clicking on the "cancel all" button  on the screen header cancels all orders entered on any financial instrument.

3.e. Repeating an order

An order can be repeated at any time provided the order to be repeated has been executed.

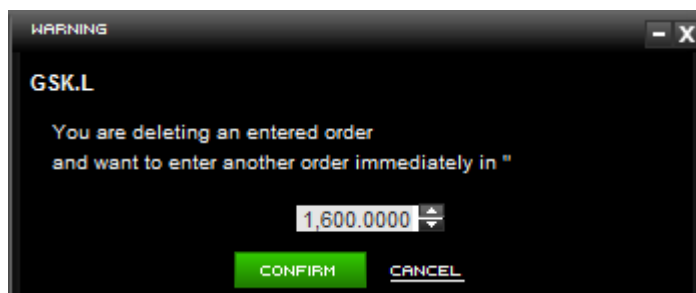
Repeat an order by clicking on the specific button  in the Securities Order Screen:

SYM	ST	B/S	ENT.Q	ENT.P	EXE.Q	EXE.P	DATE - TIME		
GSK	EX	B	10	0.0000	10	1666.0000	21/10/16 0...		PROTECT
GSK	EN	B	10	1600.0000	0	0.0000	21/10/16 0...		PROTECT
GSK	EX	B	10	0.0000	10	1662.5000	21/10/16 0...		PROTECT
BARC	EX	B	10	0.0000	10	183.2773	21/10/16 0...		PROTECT
BARC	EX	B	10	0.0000	10	183.1500	21/10/16 0...		PROTECT

3.e. Cancelling and re-entering an order

Orders entered and not yet executed can be cancelled and re-entered at a different price with just one click.

Simply click on the price entered in PowerBoard or in the screen; a pop-up opens to enter the new price and to confirm the entry:



With this function, only the price is changed. The quantity remains the same as in the previous order.

3.f. Closing a position

Standard trading allows you to close a position by entering a sell order for the security.

The sell order can be filled in on the order entry screen, in the security details, in PowerBoard, or in the Securities Portfolio.

Closure can be partial or total according to the quantity of securities you want to sell. The volume to be sold cannot be higher than the quantity of securities in the Portfolio.

Standard trading in fact does not let you sell securities that you do not own.

3.g. Security Orders Screen

The purpose of this screen is to show the status of entered orders and the prices of executed orders:

MONITOR ALERT & SETTINGS P & L BASKET									
SECURITIES DERIVATIVES FOREX CFD									
dd 0 STAT... All [Icons: Refresh, Print, Export, Import, Delete]									
SYM	ST	B/S	ENT.Q	ENT.P	EXE.Q	EXE.P	DATE - TIME		
III	EN	B	10	650.0000	0	0.0000	21/10/18 0...	X	PROTECT
CBK	EX	B	1	6.0620	1	6.0620	21/10/18 0...	R	PROTECT
BMW	EX	B	10	78.9700	10	78.9700	21/10/18 0...	R	PROTECT
BMW	EX	B	10	79.0500	10	79.0500	21/10/18 0...	R	PROTECT
GSK	EX	B	10	0.0000	10	1666.0000	21/10/18 0...	R	PROTECT
GSK	CA	B	10	1600.0000	0	0.0000	21/10/18 0...		
GSK	EX	B	10	0.0000	10	1662.5000	21/10/18 0...	R	PROTECT
BARC	EX	B	10	0.0000	10	183.2773	21/10/18 0...	R	PROTECT

1. The following are displayed in the header:

- > In the top drop-down menu, the number of trading days ("dd") for which you wish to view the orders entered (please note that 0 days corresponds to the last 24 hours of trading).
- > The "Status" drop-down menu allows you to filter the orders in the screen according to their status.

2. The screen columns contain:

> "SYM" Security symbol

> "ST" Order status: the information provided by the market concerning the execution status of the order at that point in time. This status can be:

- **EX** Executed

- **PE** Partially Executed

- **EP** Expired

- **EN** Entered

- **CA** Cancelled

- **RE** Refused: the order was refused by the system or by the market. There can be various causes, including: a lack of funds (in the case of a buy order) or of securities (in the case of a sell order); the wrong market phase (for orders placed during After Hours Trading in the case of securities not traded in this segment); any other reason why the order cannot be executed.

- **IQ** In the queue

- **BQ** To be queued: the order has been taken up. It will be entered on the market as soon as the market starts accepting new orders

- **CL** Closed

> **"B/S"**: indicates whether the order is Buy or Sell.

> **"ENT.Q"**: quantity entered in the order.

> **"ENT.P"**: price entered in the order.

> **"EXE.Q"**: executed quantity of the order.


> **"EXE.P"**: executed price of the order.

> **"DATE"**: date and time that the order is entered and that any quantity is executed, even partially.


Order management column:

> **Cancel Order**: there is a button next to each non-executed or partially executed order; just click on the button to send the order withdrawal to the market.

> **Repeat Order**: to re-enter an order, just click on the button and the order will be sent to the market with the same characteristics as the original order.

> **Protect** : this button allows you to enter/edit Stop Losses, Take Profits and Trailing Stops on the order.

If a Stop Loss or Take Profit is entered, the size of the button is reduced, showing the predetermined price for the corresponding Stop Loss or Take Profit:

Example of an unprotected order: 

Example of an order with a Stop Loss:  (the Stop Loss is always shown on the left)

Example of an order with a Take Profit:  (the Take Profit is always shown on the right)

Example of an order with a Trailing Stop:  (the protect button on the left is a lighter colour)

NOTE: The **Order Code** indicates the unique number assigned to each order: by clicking on the order status, you can see the **order certificate** with all the order details, which can be printed for your own records.

3. In the bottom of the screen, you can apply a further filter on the orders shown by entering the security symbol and clicking on Filter.

3.h. Securities Portfolio

The portfolio allows you to display your securities position updated in real time, at any moment.

The following information is shown for each security:

- "**SYM**": symbol of the contract on which a position is open.
- "**Qty**": quantity of the position, i.e. the number of securities concerned.
- "**Theoretical P&L**": indicates the potential gain or loss for each position in the portfolio as an absolute value.
- "**AVERAGE.P**": the average carrying value indicates the price at which the securities were bought. From the day following the purchase, the price also includes fees paid.
- "**MKT.P**": indicates the market price updated in real time.
- "**% Var**": expresses the difference between the average carrying value and the market price.
- "**Car Val**": the total equivalent value of the security purchase.
- "**Mar Val**": the total equivalent value of the security's market value updated in real time.
- "**Currency**": expresses the currency in which the security was traded.
- "**Mkt**": shows the symbol of the market in which each security was traded.

Other information is available for each position and can be seen by clicking on the arrow to the left of the symbol:

▼ GSK	20	-0.7500	16.6425	16.6050	-0.23%
QUANTITY	TYPE	PRICE	VALIDITY		
20	LMT	1,661.000	TODAY		
BUY		SELL			

A further order increasing the position can be entered directly from the Portfolio using the **<Buy>** button; alternatively the position can be fully or partially closed by using the **<Sell>** button.

3.i. Profit & Loss

By clicking on the "**P&L**" button in the order screen header, you can see the profit or loss gross of fees for each position both opened or closed during that trading day and for transactions opened several days before.

The total P&L for all the individual positions opened and closed on the security is displayed in a summary row for each security. By clicking on the arrow for each security, the row expands and displays all the individual closing movements made. Each row displays the following information:

- **security**: name of the instrument
- **currency**: the currency in which the security was traded
- **position**: the sign of each closed transaction. "Long" indicates all (bullish) transactions closed and "Short" indicates all (bearish) positions closed
- **time**: the time at which the position is closed
- **quantity**: the quantity of the individual position closed

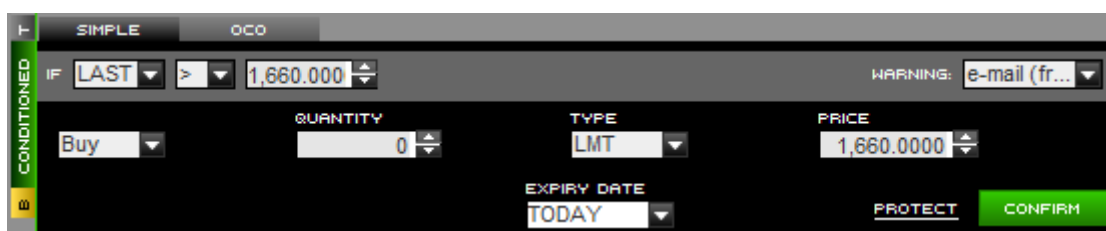
- **Avg carrying value:** the average price at which the individual transaction was opened
- **Avg closing value:** the average price at which the individual transaction was closed
- **car.val:** the total equivalent value at which the position was opened
- **clos.val:** the total equivalent value at which the position was closed
- **P&L:** the gain or loss recorded for each position
- **P&L %:** the gain or loss recorded for each position as a percentage of the opening equivalent value of the position

3.1. Conditional orders

Conditional orders are buy or sell orders that **are activated when the price set by you is reached**. Simply specify a condition (e.g. "If the price of the ABC security drops below 3.2 Euros") and indicate what you want to happen (e.g. "Notify me by text message and sell 500 shares" or "Sell 500 shares at a price of 2.15 Euros").

Conditional orders can be used on all markets on which you can trade. When the condition occurs, Fineco will notify you and automatically send the linked order to market. You can enter **up to 30 conditional orders** (Stop Loss or Take Profit) on PowerDesk. In this case, the order is not shown in the Book until the chosen Condition Price is reached.

PowerDesk has a special window for entering conditional orders.



1. Condition

Enter the event which will trigger the order, the date within which this event must occur and how you want to be alerted of the event should it occur.

2. Order

Fill in the order entry window. For conditional orders also, as for all other orders, you can enter further conditions by clicking on the SL-TP link and filling in the Stop Loss, Take Profit and Trailing Stop fields.

When entered, conditional orders applied to equity securities appear directly in the Conditional Order Screen:

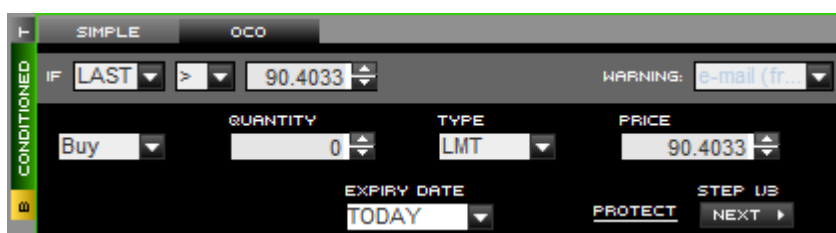
ALERT & CONDITIONS												
C	SYM	OP	CONDITION	EXPIRY DATE	NOTICE	B/S	QTY	PRICE	TYPE	SL	TP	TRAILING
S	GSK.L	OR	LAST > 1700....	2016/10/21	MAIL	A	10.0	0.0000	-	-	-	-
S	BP.L	OR	LAST ≤ 480.00...	2016/10/21	MAIL	A	100.0	0.0000	-	-	-	-
S	BAYN.EQ	OR	LAST > 91.0000	2016/10/21	MAIL	A	50.0	0.0000	-	-	-	-

By clicking on the **<Cancellation>** button at the end of each row, the conditional order is cancelled. As soon as the set condition occurs, the order will be displayed in the Order Screen.

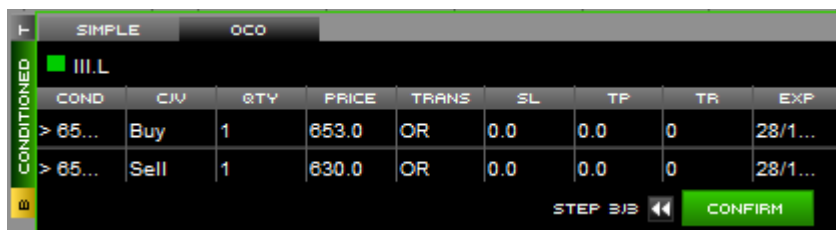
3.m OCO (Order Cancel Order)

OCO conditional orders can be used to set two linked conditional orders. The main characteristic is that the second order is automatically cancelled when the first of the two conditions occurs.

Simply access the expanded watchlist row, click on the "C" in the central screen and choose OCO. When the first two conditions are entered,

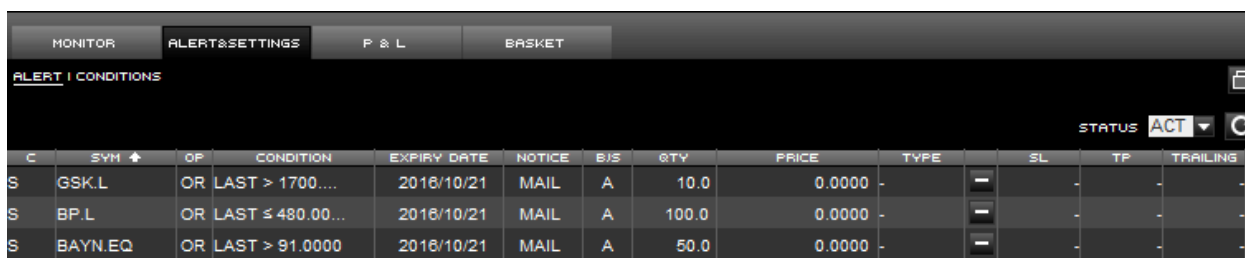


a summary window appears:



COND	QTY	PRICE	TRANS	SL	TP	TR	EXP
> 653.0	1	653.0	OR	0.0	0.0	0	28/11...
> 630.0	1	630.0	OR	0.0	0.0	0	28/11...

Entered orders can be cancelled by accessing the condition section, inside the "Alerts and conditional orders" panel



C	SYM	OP	CONDITION	EXPIRY DATE	NOTICE	B/S	QTY	PRICE	TYPE	SL	TP	TRAILING
S	GSK.L	OR	LAST > 1700....	2016/10/21	MAIL	A	10.0	0.0000	-	-	-	-
S	BP.L	OR	LAST ≤ 480.00...	2016/10/21	MAIL	A	100.0	0.0000	-	-	-	-
S	BAYN.EQ	OR	LAST > 91.0000	2016/10/21	MAIL	A	50.0	0.0000	-	-	-	-

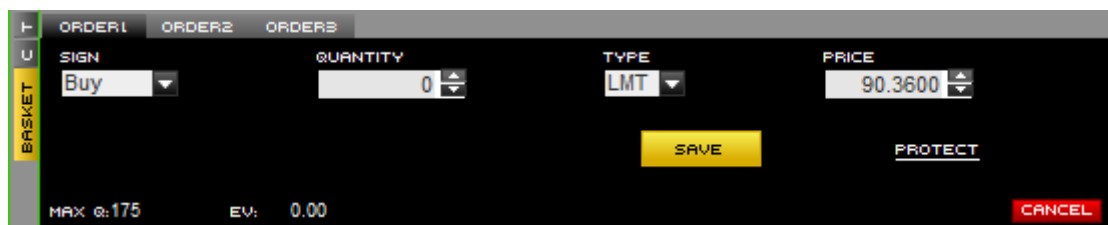
3.m Basket order

Basket order is the PowerDesk tool that allows you to prepare one or more orders and save them in a List, reserving the right to transmit them wholly or partially to Fineco at a later time.

1. Trading

- Setting and saving orders

The central screen of each security string displays a **BASKET** tab which allows setting and saving an order, without sending it to the market.



Orders saved in the Basket are only considered transmitted to Fineco for execution when you flag these and then click the 'SEND ORDER' button, confirming the instruction by entering the PIN. After receiving the orders, Fineco will only then send them to market for execution.


Saved orders appear in the List already flagged and you can at any time:


- send them to Fineco by clicking the "SEND ORDERS" button
- cancel them by clicking the "CANCEL ORDERS" button

Moreover, by clicking on the string of each saved order, you can edit at any time:


- the transaction sign (buy/sell)
- the quantity
- the price

When an order is saved with a MKT (market) price type, it cannot be edited with a Limit price; a new order must be set and saved with a limit price.

The "CANCEL ORDERS" button is used to delete the selected orders from the memory. Cancellation  can also occur by using the button next to each order.

> **Protect** : this link allows you to enter/edit Stop Losses, Take Profits and Trailing Stops on the order.

If a Stop Loss or Take Profit is entered, the size of the button is reduced, showing the predetermined price for the corresponding Stop Loss or Take Profit

Example of an unprotected order: 

Example of an order with a Stop Loss:  (the Stop Loss is always shown on the left)





Example of an order with a Take Profit:  (the Take Profit is always shown on the right)

Example of an order with a Trailing Stop:  (the protect button on the left is a lighter colour)

Saved orders can be seen in a List in the BASKET Screen and are permanently saved.

The following information can be seen in the List:

- **SYM**: Security symbol
- **OP**: Trading set (ORD: standard, In: intraday, Ov: overnight)
- **BS**: Order sign (Buy/Sell)
- **QTY**: Quantity set
- **PRICE**: Price set (Limit or MKT)
- **MARGIN**: Margin chosen for orders on Derivatives positions



MONITOR ALERT&SETTINGS P & L BASKET									
   									
	SYM	OP	BS	QTY	PRICE	MARGIN			
<input checked="" type="checkbox"/>	III.L	ORD	Buy	5	658.0	0.00%	X	PROTECT	
<input checked="" type="checkbox"/>	BP.L	ORD	Buy	30	485.0	0.00%	X	PROTECT	
<input checked="" type="checkbox"/>	BP.L	ORD	Sell	20	487.0	0.00%	X	PROTECT	
<input checked="" type="checkbox"/>	BAYN.EQ	ORD	Buy	10	89.0	0.00%	X	PROTECT	





2. Sending orders

The last order saved appears at the top of the BASKET List.

All saved orders appear in the List already flagged, ready to be sent to Fineco.

Deselect orders that you do NOT want to send to the market, then click the SEND ORDERS button to send the selected orders.

When several orders are sent, the first order to be transmitted to the Bank is the one at the top of the List, then the second and so on. However, the order can be changed as desired by selecting the arrows  , moving the orders up or down the list; thereby giving the market transmission order.

MONITOR ALERT&SETTINGS P & L BASKET									
   									
	SYM	OP	BS	QTY	PRICE	MARGIN			
<input checked="" type="checkbox"/>	III.L	ORD	Buy	5	658.0	0.00%	X	PROTECT	
<input checked="" type="checkbox"/>	BP.L	ORD	Buy	31	485.0	0.00%	X	PROTECT	
<input checked="" type="checkbox"/>	BP.L	ORD	Buy	20	487.0	0.00%	X	PROTECT	
<input checked="" type="checkbox"/>	BAYN.EQ	ORD	Buy	10	89.0	0.00%	X	PROTECT	

After clicking the "SEND ORDERS" button, a summary pop-up will appear in the foreground where you can monitor the status of the order.

You can check the execution of the orders and their execution price in the "Order screen" section.

Basket order allows you to keep a record of orders saved in the List and subsequently transmitted to Fineco. These orders will in fact remain in the List but, if they have been executed, they will no longer be flagged; if on the other hand they have not been executed on the market for any reason, they will still be flagged in order to be sent to Fineco at a later time.

BASKET ORDER STATUS						
SYM	OP	BS	QTY	PRICE	MARGIN	STATUS
III.L	ORD	Buy	5	658.0	0.00%	Cancelled
BP.L	ORD	Buy	31	485.0	0.00%	Send
BAYN.EQ	ORD	Buy	10	89.0	0.00%	Send
BAYN.EQ	ORD	Buy	10	89.0	0.00%	Send

Check the monitor to visualise whether the forwarded orders have been executed

Important: before sending orders to market, we recommend checking that all their parameters are correct and the transmission order that you wish to maintain.

If an order transmitted to Fineco is subsequently refused for any reason, a warning message will be displayed and the order concerned will remain flagged in the List.

All orders are in fact independent from each other. If multiple orders are sent, the refusal of one does not affect the transmission of the other orders you have asked to be sent.

4. Futures trading

> What is a Future?

The derivative consists of a standardised forward contract, for the purchase/sale of a commodity or financial asset (underlying) at a future date, at a price fixed at the time the contract is agreed.

The parties signing a Futures contract undertake to trade, on a pre-established date and at a price (Futures Price) defined by the contract, the amount of financial instruments or of a specific asset underlying the contract, whose price is formed on the related market. Investors purchasing a Futures contract have a long position; they must buy the asset underlying the contract on expiry, or they can close their position by selling a Future which is equivalent to the purchased one before expiry. Likewise, investors selling a Futures contract have a short position and undertake to deliver the underlying asset on expiry, or they close their position before expiry, by purchasing a contract which is equivalent to the one sold. An increase in the price of the Future generates profit for investors that have a long position, and losses for investors that have a short position.

> Clearing margin

Futures trading is characterised by the so-called margins system, according to which investors entering into a Futures contract must deposit, through an intermediary called the Clearing Member, a sum of money (initial or clearing margin), in order to guarantee performance on expiry. The margin is a limited percentage (which varies from 2% to 30%) of the traded amount.

Fineco allows you to customise both the level of the clearing margins held and the positioning of the related Stop Loss order (always 5% lower than the clearing margin). If the clearing margin is set at 20%, with the Stop Loss order at 15%, this level can be changed directly on PowerDesk, using the drop-down Margin Trading menu in the order entry screen, increasing it up to 30% with a stop at 25% or reducing it to 2% with a stop at 0.5%, for "tighter" trading.

The selected margin is applied to all the derivatives and to any transactions made. Margins can therefore be changed, provided your derivatives portfolio does not already have open positions on that specific Future.

> Fineco's Automatic Stop Loss

This is an automatic order that closes your position if the price undergoes excessive variations. The Stop Order varies according to the traded instrument, the type of trading and the selected margin.

How does it work? The Automatic Stop Order is triggered when the underlying instrument (and not the margin) varies by a percentage equal to: $\text{Margin\%} - 5\%$. For example, with a Margin fixed at 20%, the Automatic Stop Order will be triggered if the underlying index (e.g. FTSE MIB) varies by 15% ($= 20\% - 5\%$). For the purpose of this calculation, the reference value used is the average price of the executed orders. At the end of the day, if there are open positions, the Stop Order value will be reintroduced the following day, still calculated on the average of executed orders, whereas the closing value at the end of the day will be used for margin adjustment transactions and for subsequently calculating profits/losses at the closure of the contract. **This Stop Loss cannot be changed by the customer,**

It is possible to enter a Stop Loss with a "tighter" price level and a Take Profit on the position, but not a Trailing Stop.

> Stop Loss, Take Profit and Trailing Stop

Automatic orders (Stop Losses, Take Profits and Trailing Stops) **can be entered on the single orders making up the position.**

> Settlement

The settlement or official closing price is calculated daily for each Futures contract and is displayed in a specific "Settlement of Futures" table in the Portfolio page of the website.

After closing of the Idem, Eurex and CME markets, all settlement prices that are used to calculate the margin and accounting positions are updated.

Note: each stock exchange can establish different procedures for calculating the official closing price.

> Multiplier/Minimum lot

For index products, the multiplier is the value in Euros of each index point. For futures, the minimum lot refers to the number of futures contracts covered by the order.

> Accounting and administrative note

Trading on derivatives is recognised at T+1, while the Euro/Dollar exchange rate has a value date of T+3.

Therefore, a currency request to trade US futures guarantees available funds for trading. Whereas, for open Overnight positions, the account could become overdrawn because of the different recording of exchange and derivatives transactions.

4.a. Entering an order

You must enter the following in the order screen:

> Quantity: the number of lots you wish to buy/sell.

> Type: indicates the type of order:

- "MKT" market.
- "STF" at best or sweep to fill.
- "LIM" limit.

> Price: the buy/sell price of a contract.

> Margin: the clearing margin.

> Validity: you can choose from three different methods to enter the order:

- **GTC:** Good Till Cancelled. It allows you to enter an order that is valid until the end of the trading day. This parameter is pre-set in the order window.

Note: Stop Loss orders cannot be entered without a price limit.

- **IOC:** is the abbreviation for "Immediate or Cancel". It allows you to enter an order, at a specified price, that will be executed (possibly partially) at the time that it is entered. Any quantity not met at the set price will automatically be cancelled.

Note: Stop Loss orders cannot be entered without a price limit.

- **FOK:** fill or kill. The order must be executed in full or it is automatically cancelled.

It allows you to enter an order with a price indication, which will be executed only if the book contains enough to cover the quantity in full; otherwise the entire order is automatically cancelled. This type of order is not accepted by Eurex.

Note: Stop Loss orders cannot be entered without a price limit.

IOC and FOK orders are never entered in the book (despite generating a PDN).

Validity of market orders

For derivatives traded on IDEM, a market order can be associated with an IOC or FOK validity.

For derivatives traded on Eurex, this type of order is restricted to a GTC validity.

Market orders on Futures traded on the CME can be GTC or IOC.

> **SL – TP:** automatic orders (Stop Losses, Take Profits and Trailing Stops) can be entered both on orders and on positions.

Operating notes:


- Every order on derivatives must be executed on the same market day. Otherwise it will be cancelled.

- The rollover (lengthening the position beyond expiry) must be performed manually by closing out the contract prior to the upcoming expiry date and then setting up the same position rolled over to the next expiry date. All the positions still open on the expiry date will automatically be closed.

- You can enter orders at a price close to the automatic Stop Loss, but should there be a sudden market movement, there is the possibility that both the order entered and the Stop Loss are executed, producing the effect of opening a new position with the opposite sign.

- The default quantity for orders on Futures can be pre-set in the PD2 Preferences. This allows filling in the Order Entry screen more quickly.

4.b. Cancelling an order

To cancel an order, the order status must be entered, in the queue, to be queued or partially executed. It is cancelled by clicking on the specific button  in the Derivatives Order Screen.


If the order is entered, in the queue or to be queued, by clicking on the cancel button, the command has effect on the entire equivalent value of the order.

If the order has been partially executed, clicking on the  button only cancels the non-executed part of the order.

When an order is cancelled, the funds reserved for the transaction are immediately credited back to the available balance.

As occurs with the other instruments that can be traded on PowerDesk, both individual orders and all orders entered on a future can be cancelled from the book through the cancel functions.

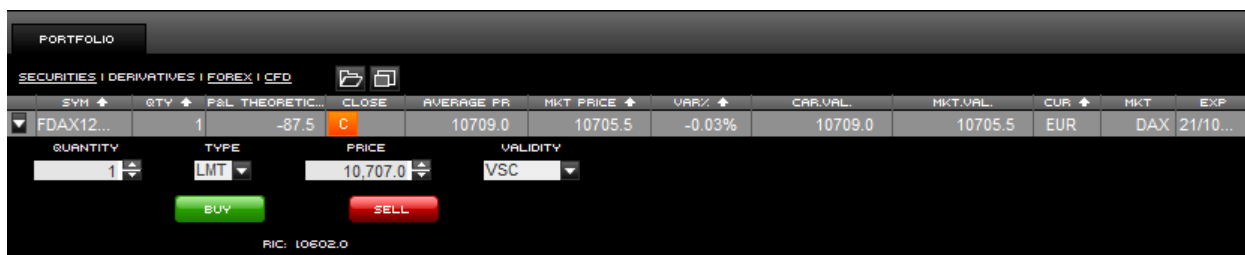
4.c. Repeating an order

An order can be repeated at any time provided the order to be repeated has been executed. Repeat an order by clicking on the specific button  in the Order Screen.

NOTE: as the linked conditional order is an active order, clicking on the <Repeat> button also repeats the order.

4.d. Closing a position

Derivatives trading allows you to close a position by entering a sell order for the same security. The sell order can be filled in either in the order entry screen in the security details, or in PowerBoard and the derivatives Portfolio. Moreover, still from the Portfolio, you can enter a market order by clicking on the "C" button in the Close column.



Closure can be partial or total according to the quantity of securities you wish to sell.

Derivatives trading not only allows you to close the position but, at the same time, to reverse the position by entering a larger quantity in the order.

4.e. Entering Stop Loss, Take Profit and Trailing Stop conditions

> Automatic Stop Losses

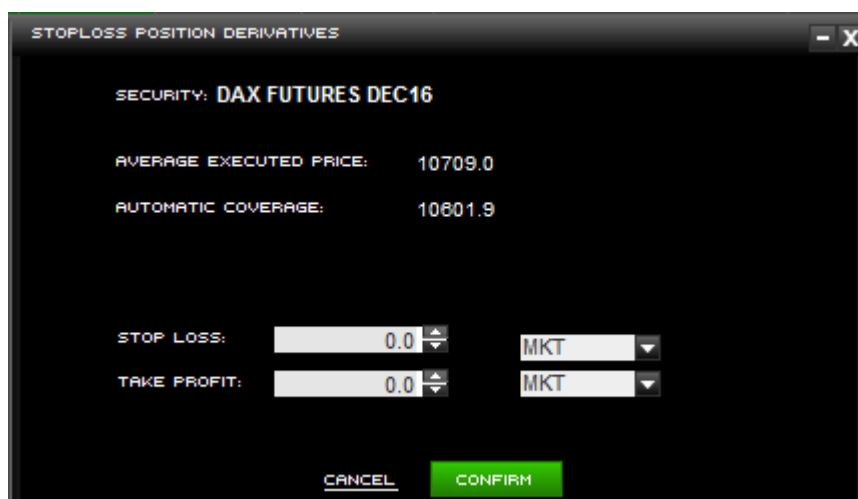
Fineco automatically associates a Stop Loss to each open position. This Stop Loss varies according to the traded instrument, the type of trading and the margin selected. The Stop Loss is a "market" order, which automatically closes your position if the price undergoes excessive variations.

To display the automatic cover price, click on the **PROTECT** button by the position string in the futures screen. Clicking opens a box which shows the automatic cover value in detail.

> Customised Stop Losses and Take Profits on the position

You can enter a Stop Loss with a "tighter" price level than the automatic Stop Loss and a Take Profit in the same box which shows the Fineco Stop Loss. It is not possible to enter any Trailing Stops on the position.

These automatic orders can be sent either with a "market" or with a "limit" price.



STOPLOSS POSITION DERIVATIVES

SECURITY: DAX FUTURES DEC16

AVERAGE EXECUTED PRICE: 10709.0

AUTOMATIC COVERAGE: 10601.9

STOP LOSS: 0.0 MKT

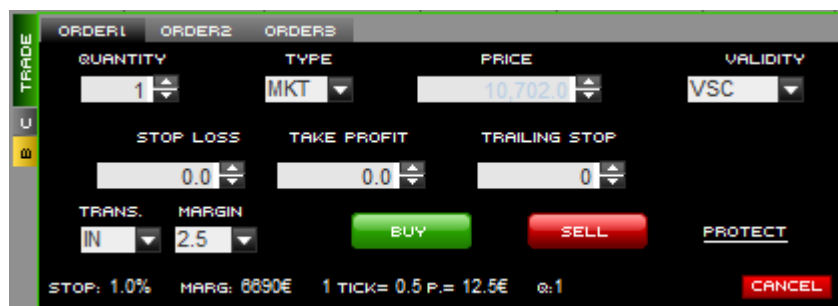
TAKE PROFIT: 0.0 MKT

CANCEL CONFIRM

> Customised Stop Losses and Take Profits on the order

Customisable automatic orders such as Stop Losses, Take Profits and Trailing Stops can be entered in addition to the automatic cover price. They can be entered:

- during the order entry phase by clicking on the specific link (in this case the order entry screen expands offering the option of entering an SL, TP or Trailing Stop)



ORDER1 ORDER2 ORDER3

TRADE


QUANTITY: 1 TYPE: MKT PRICE: 10702.0 VALIDITY: VSC

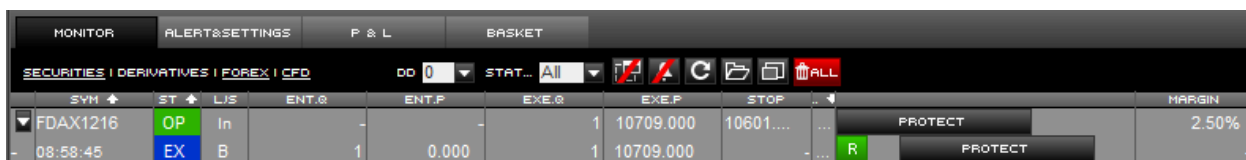
STOP LOSS: 0.0 TAKE PROFIT: 0.0 TRAILING STOP: 0

TRANS. MARGIN: IN 2.5

BUY SELL PROTECT

STOP: 1.0% MARG: 6690€ 1 TICK= 0.5 P.= 12.5€ @:1 CANCEL

- or they can be entered after entering the order by clicking the  button by the order string in the futures screen.



You need to enter the two values on which you want to place the Stop Loss and Take Profit and the number of ticks for the Trailing Stop.

The potential Profit or Loss calculator is located next to each value entered.



The personalised Stop Loss cannot be less than the Fineco automatic cover price for long positions and cannot be higher in the case of short positions. The system allows you to enter Stop Losses higher than the average carrying value and lower than the market price of the position. This enables you to protect any gains, updating the Stop Loss value to the market value taken by the position.


After entering one of the values, the specific button lights up (bright blue) indicating the presence of at least one of the automatic orders. To edit the values entered, simply click on the arrows of the related box and click on confirm; to cancel the values entered just click on the "x" button.

Revocation

Fineco will consider the SL and TP and TS values lapsed if:

- one of the three conditions occurs and the order is therefore sent to market
- should the position be reversed, the values entered on the individual orders remain valid; however, any SLs and TPs entered on the position lapse. The stops must be entered again in order to protect the position.

Remember that Trailing Stops are valid for one day; any Trailing Stops which are still active will be cancelled at the end of the continuous trading phase.

> **Protect** : this link allows you to enter/edit Stop Losses, Take Profits and Trailing Stops on the order.

If a Stop Loss or Take Profit is entered, the size of the button is reduced, showing the predetermined price for the corresponding Stop Loss or Take Profit

Example of an unprotected order: 

Example of an order with a Stop Loss:  (the Stop Loss is always shown on the left)

Example of an order with a Take Profit:  (the Take Profit is always shown on the right)

Example of an order with a Trailing Stop:  (the protect button on the left is a lighter colour)

4.f. Trade and Reverse

This function allows traders to reverse their position on the market with a single click, as it enables completely closing the long or short position on Futures and opening a position with the opposite sign with a single order.

Trade & Reverse cancels any Stop Loss and Take Profit entered on the position, but does not modify the conditions placed on the single orders which remain active.

4.g. Bid and Ask Orders

It is possible to be present in the Book at the same time with several buy and sell orders on the same future. Bid & Ask Orders are active on CME, Eurex and IDEM Futures.

4.h. Derivatives Order Screen

Derivatives transactions are characterised by setting up a position containing all orders on the same instrument regardless of the opening date of the position.

In the Derivatives screen, the top row refers to the position on the instrument, whereas the expanded top row shows the details of all the orders which constitute it.

1. The following are displayed in the header:

> In the top drop-down menu, the number of trading days ("**dd**") for which you wish to view the orders entered (please note that 0 days corresponds to the last 24 hours of trading).

> The "**Status**" drop-down menu allows you to filter the orders in the screen according to their status.

2. The Screen columns contain:

- "**SYM**": Symbol of the Future.
- "**ST**": Order status: the information provided by the market concerning the execution status of the order at that point in time. This status can be:
 - **Executed**
 - **Partially Executed**
 - **Entered**
 - **Cancelled**
 - **Refused**: the order was refused by the system or by the Market. There could be various causes, including: a lack of liquidity (in the case of a buy order) or of securities (in the case of a sell order); any other reason why the order cannot be executed.
 - **In the queue**
 - **To be queued**. The order has been taken up. It will be placed on the market as soon as the market starts accepting new orders (this usually happens when the market is still closed).
- "**B/S**": indicates whether the order is Buy or Sell.
- "**ENT.Q**": Quantity entered in the order.
- "**ENT.P**": Price entered in the order.
- "**EXE.Q**": Executed quantity of the order.
- "**EXE.P**": Executed price of the order.
- "**COND**": if there is a conditional order.

- "**DATE**": The Date and Time the order is placed and any quantity executed, even partially.

> Order management column:

- **Cancel Order**: there is a button next to each non-executed or partially executed order; simply click on the button to send a command to withdraw the order.
- **Repeat Order**: to re-enter an order, just click on the button and the order will be sent to market with the same characteristics as the original order.
- **SL – TP**: to set a Stop Loss, Take Profit and Trailing Stop on each individual order or, when by the position line, to allow you to set a Stop Loss and Take Profit on the position.

NOTE: the **Order Code** indicates the unique number assigned to each order: by clicking on the order status, you can see the order certificate, which can be printed for your own records.

3. You can set a further filter on the orders shown by entering the security Symbol and clicking on Filter at the bottom of the Screen.

4.i Derivatives Portfolio

The portfolio allows you to view your Futures position in real time, at any moment.

Some information is shown for each security:

- "**SYM**": the symbol of the contract on which a position is open.
- "**QTY**": Quantity of the position, i.e. the number of lots and the position sign ("- " indicates a short position).
- "**Theoretical P&L**": updated profits or losses on the open position; the value indicates how much the customer would gain or lose if he closed the "market" position at that point in time
- "**CLOSE**" instruction column
- "**AVERAGE.P**": the average carrying value indicates the price at which the securities were bought. From the day following the purchase, the price also includes fees paid.
- "**MKT.P**": indicates the market price updated in real time.
- "**% Var**": expresses the difference between the average carrying value and the market price.
- "**Car Val**": indicates the total value of the derivative at the time of purchase
- "**Mkt Val**": indicates the value of the derivative in real time
- "**Cur**": the currency in which the financial instrument is traded
- "**Mkt**": indicates the traded product (fut = futures)

Operating Note: the Profit & Loss value, which follows a cover, is calculated in relation to the average price (the lots are covered taking into consideration their average price). The average carrying value of the lots changes from day to day in relation to the compensation with the clearing house.

4.I. Conditional orders

The customer can enter up to 30 conditional orders (Stop Losses or Take Profits) on PowerDesk. In this case also, the Customer's order is not shown in the book until the Condition Price is reached.

As conditional orders on derivatives are sent and handled by the reference markets, each market has different operating rules for accepting conditional offers.

For the same reason, once this type of order has been entered, it does not appear in the special Conditional Order Screen, but it is included in the Derivatives Order Screen.

Each market has different rules for accepting conditional orders:

EUREX: this market has very restrictive rules for accepting conditional orders.

1. Condition: the last price is the same as the reference price.
2. Order: the order price is the same as the condition price (the price field is not active): the conditional order is triggered when the market reaches a key price and sends an order to market at that price. Moreover, a conditional buy order is accepted if the reference price is higher than the Last price, whereas a conditional sell order is accepted if the reference price is less than the Last price.

CME: this market has some rules for accepting conditional orders.

1. Condition: the Last price is the same as the reference price.
2. Order: there is no inextricable link between the trigger price (the condition price) and the price that is then sent to market, therefore they may be different. The order type can be either "limit" or "market".

Operating note: Conditional orders have a one-day validity and, if not executed, the conditions associated with them (Stop Loss, Take Profit or Trailing Stop) will be cancelled on expiry of the order.

IDEM: this market offers great flexibility for setting conditional orders.

1. Condition: the last price can be more than/equal to or less than/equal to the reference price.

2. Order: there is no inextricable link between the trigger price (the condition price) and the price that is then sent to market, therefore they may be different. A price limit must be entered.

OCO orders can be entered on the IDEM, Eurex and CME markets

5. Trading on Options

> What is an option?

Options are derivatives financial contracts that give the holder the right, but not the obligation, to buy (in which case the option is known as a CALL) or to sell (in which case the option is known as a PUT) a specific underlying instrument (which can be a share, an index, a currency, etc.) at a set price (known as the STRIKE PRICE) in return for the payment of a premium.

The Option is defined a EUROPEAN TYPE if the right can only be exercised on the expiry date; if on the other hand it can be exercised at any time up to the expiry date, the Option is defined an AMERICAN TYPE. CALL and PUT Options can be bought or sold, thereby obtaining very different return profiles. > **Some definitions**

Underlying: The underlying financial instrument can be a share, an index, a currency, a government bond, a future contract or any other transferable security (e.g. Fiat, FTSE MIB, Dollar/Euro) for which it is possible to identify official prices.

Contract multiplier: If the underlying instrument consists of an index, a monetary value is attributed to each of its units. In the case of Options on the FTSE MIB, each point has a value of 2.5 Euros, on the DAX30 index each point has a value of 5 Euros and on the EUROSTOXX50 the value of each point is 10 Euros.

Contract size:

The contract size is given by the product of the value of the strike price (in index points) and the value of the contract multiplier.

Premium:

This is the price paid by the investor on acquiring the Option and represents the maximum loss that he/she can incur. The equivalent value invested is equal to the option's premium (expressed in index points) multiplied by the contract multiplier (2.5 Euros in the case of options on the FTSE MIB index)

Strike price:

The price of the underlying instrument at which the investor can exercise the option. Movements in the

underlying instrument can modify the value of an Option and, according to its position in respect of the strike price, call options can be defined as:

in the money:

when the value of the underlying instrument is greater than the strike price;

out of the money: when the value of the underlying instrument is lower than the strike price;

at the money: when the value of the underlying instrument is the same as the strike price.

Conversely, put Options can be defined as:

in the money: when the value of the underlying instrument is lower than the strike price;

out of the money: when the value of the underlying instrument is greater than the strike price;

at the money: when the value of the underlying is the same as the strike price

> Trading

With PowerDesk you can buy all the expiring Option contracts on the FTSE MIB Index traded on the IDEM market and all the expiring option contracts on the DAX30 and EUROSTOXX50 indices.

However, no short sale is available. In order to open a long position **you must pay a premium**, which is the maximum potential loss that the investor could suffer. If the position is closed **before the expiry of the contract**, the Option is traded on the market and the profit or loss on the position is calculated as the difference between the sell price and the carrying value.

For each maturity of options on shares and on the FTSE MIB index, trading is possible until the market closure (17:40) on the day prior to the end of each contract (usually on Friday mornings).

Each contract is displayed in the securities portfolio until the evening before the last trading day.

For options on the Eurex market, trading on each expiring contract ends at its maturity (usually the third Friday of the month),

Specifically, at 12:00 on the expiry date, for options on the EUROSTOXX50 index and at 13:00, also on the expiry date, for options on the DAX30 index.

5.a. Trading on the platform

In order to trade simply select the "Options" list from the list of available baskets in PowerDesk. When launched, you will see the Options centre displayed - the popup completely dedicated to Options transactions. The window can be enlarged to full screen or shrunk, by selecting the icons in the top right of the screen.

All the current available expiry dates which are traded on the IDEM market are displayed in the pop-up heading by default.

The drop-down menu is selected by default for the FTSE MIB index options; by scrolling through the menu you can select the options on various IDEM shares and the options on the DAX30 and EUROSTOXX50 indices.

5.b. Options centre

OPTION CENTER																			
Underlying		DAX																	
		CALL																	
FE	ODAX2L7100	55	496,9000	510,2000	55	507,5000	36	11:07:12	7100,0000	17:18:05	0	0,0000	50	1,1000	1,5000	75	ODAX2X7100	FE	
FE	ODAX2L7200	88	400,7000	407,8000	88	416,0000	1	09:36:23	7200,0000	11:10:21	167	1,7000	50	1,2000	2,1000	200	ODAX2X7200	FE	
FE	ODAX2L7300	88	301,9000	308,9000	88	297,0000	1	10:07:28	7300,0000	09:31:02	38	2,6000	100	2,4000	3,2000	50	ODAX2X7300	FE	
FE	ODAX2L7400	88	205,8000	212,5000	88	207,7000	24	10:39:41	7400,0000	11:05:28	1265	6,8000	70	6,4000	7,1000	14	ODAX2X7400	FE	
FE	ODAX2L7500	55	119,3000	124,0000	88	116,2000	229	10:19:36	7500,0000	11:06:30	1599	18,0000	5	18,4000	19,4000	150	ODAX2X7500	FE	
FE	ODAX2L7600	2	51,7000	53,9000	100	53,0000	1319	11:10:47	7600,0000	11:06:35	721	47,6000	2	49,3000	51,4000	2	ODAX2X7600	FE	
FE	ODAX2L7700	5	14,9000	15,4000	50	15,8000	476	11:08:43	7700,0000	11:06:27	12	109,0000	100	108,8000	116,0000	105	ODAX2X7700	FE	
FE	ODAX2L7800	35	2,9000	3,5000	196	4,3000	185	09:31:00	7800,0000	10:53:58	3	198,0000	250	193,7000	204,4000	55	ODAX2X7800	FE	
FE	ODAX2L8000	100	0,5000	1,0000	10	0,0000	0	16:57:56	8000,0000	11:06:55	1	395,0000	200	386,4000	410,3000	200	ODAX2X8000	FE	
FE	ODAX2L8200	100	0,3000	0,8000	4	0,0000	0	13:00:12	8200,0000	12:33:31	0	0,0000	0	0,0000	0,0000	0	ODAX2X8200	FE	
FE	ODAX2L8400	0	0,0000	0,5000	6	0,0000	0	16:59:05	8400,0000	11:10:28	0	0,0000	0	0,0000	0,0000	0	ODAX2X8400	FE	

By clicking on "Advanced Search", you can carry out a more precise request by simultaneously cross-referencing several variables. The Strike price of each contract is positioned at the centre of each row against a yellow background. For each level, you will see all the Put contracts to the right of the strike price and all the Call contracts to the left of the strike price.

For improved trading, by clicking on the "CALL" ("PUT") button, the call (put) panel options only expands to full screen; by clicking the button again, it returns by default to the initial view.

Trading: you will see the PowerBoard with the book, order screen, tick-by-tick chart, order entry and time and sales displayed by double-clicking on each contract row (to the right for puts, or to the left for calls).

OPTIONBOARD BY FINECO

ODAX7A6500

16:41:23 CHG. MIN-MAX VOLUME OPEN

0.0000 0.0000 0 0.0000

0.00% 0.0000 0

BOOK

#	BID Q	BID P	ASK P	ASK Q	#
0	0	5058.8000	5065.9000	0	0
0	0	0.0000	0.0000	0	0
0	0	0.0000	0.0000	0	0
0	0	0.0000	0.0000	0	0
0	0	0.0000	0.0000	0	0

ORDER

ORDER1 ORDER2 ORDER3

QUANTITY 0 TYPE LMT PRICE 0.0000 EXPIRY ... OGGI

BUY SELL

EV 0.00 MAX QTY 7 MP 5.0 UNDER QTY 1

MONITOR

SECURITIES

SYM ... Q P

CHART

LAST | BID-ASK

> **Order screen.** Each transaction is displayed in the order monitor, in the general "securities" section. The fields displayed are:

- **"SYM"**: Option symbol.

- **"ST"**: Order status. The information provided by the market concerning the execution status of the order at that point in time. This status can be:

- Executed
- Partially Executed
- Entered
- Cancelled
- Refused
- In the queue
- To be queued

- "ENT.Q": Quantity entered in the order.
- "ENT.P": Price entered in the order.
- "EXE.Q": Executed quantity of the order.
- "EXE.P": Executed price of the order.
- "DATE"

Once purchased, each contract is displayed in the general securities portfolio. The equivalent carrying and market value takes into account the contract purchase price x the number of contracts x the multiplier (2.5). For each contract in the portfolio, the same columns already indicated for standard trading on equity securities are evidenced

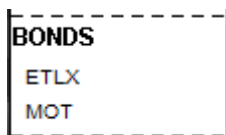
> P&L panel

The profit and/or loss for each closed position is indicated in the "P&L" panel.

As occurs for any PowerDesk list, you can also customise the Options centre (from the preferences panel) with the skin colour, the font size and the highlighted columns

6. Trading on Bonds

With PowerDesk you can trade all TLX, EuroTLX, MOT and EuroMOT market bonds with prices updated with push notifications, a 5-level book, PowerBoard and Time & Sales. By selecting "MOT" from the drop-down menu of the baskets available on PowerDesk you access the list of bonds most traded by FinecoBank customers. By selecting "TLX" you access the list of the 50 most traded bonds on the market.



From the platform search function, you can search for any other bond traded on MOT and TLX and enter it in customised watchlists.

All the instruments and operating functions for equity securities can also be used for bonds: 5-level book, push notifications, PowerBook, charts, Time & Sales.

PowerDesk only displays the clean price without any details concerning the coupon, its maturity and detail sheet. There is more comprehensive information concerning each security on the Fineco website.

All positions opened on bonds are held in the general securities portfolio;

The P&L window allows you to see the updated information concerning all gains and losses recorded both for intraday and multiday positions.

On PowerDesk you cannot trade securities traded on the Fineco Systematic Internalisation (SI) system. Fineco SI market system bonds can only be bought and sold on the website. If you have bought a Fineco SI market security from the website, you can also view it in the PowerDesk portfolio, but you can only sell it through the website.

6.a. Trading on the platform

You can trade directly from the default "TLX" and "MOT" lists or by entering a security in your customised lists. You can use all the modules and functions already described for standard trading on equity securities: expanded row, PowerBoard, conditional orders. Every order is displayed in the "securities" order screen. Open positions are instead updated in the "securities" portfolio: the theoretical P&L is calculated based on the difference between the market value and the carrying value; any possible coupons are not calculated in the PowerDesk portfolio, but they can be viewed in the Fineco website portfolio

7. Contracts for difference (CFD)

You can buy and sell Contracts for Difference directly from the PowerDesk platform. By clicking on the link in the PowerDesk drop-down menu you can access the list of available CFDs. The following is displayed for each CFD:

SYM: symbol that identifies each CFD.

DESCR: extended description of each CFD (for example FTSE MIB).

BID P.: bid price. By applying this price, you sell the CFD.

ASK P.: ask price. By applying this price, you buy the CFD.

MIN: the lowest bid price quoted by the Bank during the day.

MAX: the highest bid price quoted by the Bank during the day.

CHG: percentage change in the current bid price over the closing price of the previous day.

TIME: time of the last change.

POWERDESK

Profit & Loss: ---

Balance GBP

Book.Ass. --

£/\$ WORKSPACE

FTSE 1007327.130-0.15%

DAX3011554.710-0.64%

Eurostoxx 503297.691-0.80%

DJ19885.730-0.03%

NSDQ1000.0000.00%

Indices

Search

LIST1

LIST2

LIST3

LIST4

LIST5

LIST6

LIST7

LIST8

LIST9

BEST-WORST

SYM	LAST	VAR% ▲	#B	BID Q	BID P	ASK P	ASK Q	#A	VOLUMES ▲	MIN	MAX	Q
▶ DJ30SKCFD		-0.23%	-	1000000	19863.000	19869.000	1000000	-		19843.000	19886.000	2259
▶ ESTOXXSKCFD		-0.61%	-	1000000	3295.600	3297.600	1000000	-		3292.600	3312.600	3307
▶ FTSE100SKCFD		-0.07%	-	1000000	7325.900	7331.900	1000000	-		7130.400	7358.200	7281
▶ DAX30SKCFD		-0.38%	-	1000000	11561.000	11563.000	1000000	-		11529.000	11580.000	0
▶ NASDAQSKCFD		-0.18%	-	1000000	5056.500	5057.500	1000000	-		5047.800	5060.300	4934
▶ SP500SKCFD		-0.25%	-	1000000	2271.800	2272.800	1000000	-		2269.800	2274.300	2260
▶ ICL20KCFD		-1.15%	-	1000000	3589.700	3601.700	1000000	-		3589.600	3626.800	0

To trade, you need to ask that the service be activated in the "Service Management" page on the Fineco home page.

7.a. Trading methods

You can enter orders directly from the CFD basket or by entering the instruments you are interested in into one of your customised watchlists; in this case you need to indicate the CFD symbol in the "sym" box and add it to the list like any other financial instrument or drag it, left-clicking the desired list.

There are two different methods available: Expanding the row in the watchlist or in PowerBoard:

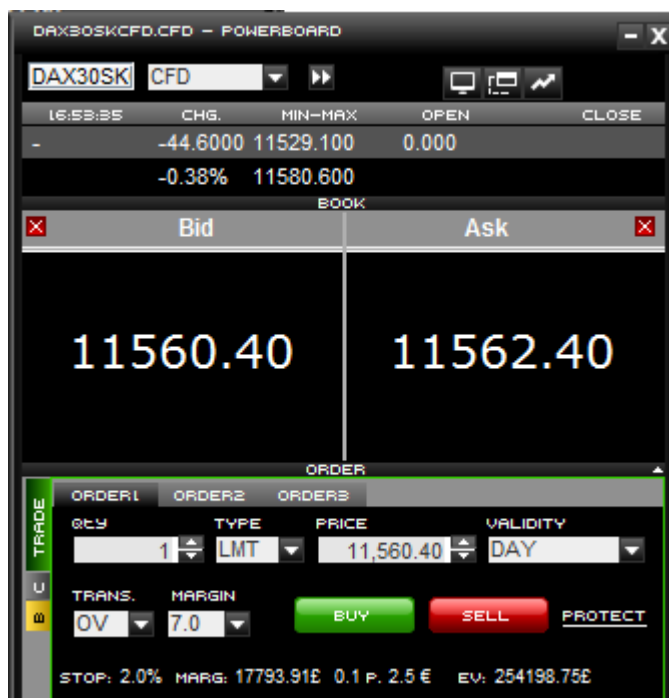
- By expanding the row of the single CFD in the watchlist, both the bid and ask prices are displayed

FTSE100SKCFD	-	-0.08%	1000000	7325.100	7331.100	1000000	-	7130.4...	7358.2...	7281.5...	7330.8...	-	16.5
Bid		Ask											
7325.10		7331.10											
				ORDER1	ORDER2	ORDER3							
				QTY	1	TYPE	LMT	PRICE	7,325.40	VALIDITY	DAY		
				U	TRANS.	MARGIN	0V	7.0	BUY		SELL	PROTECT	
				STOP: 2.0% MARG: 5127.78€ 0.1 p. 1 GBP EV: 73254.00€									
				CANCEL									

- by right-clicking on the CFD, you can access PowerBoard: at the top you can see the bid and ask prices and just below is the order entry screen.

You can change the CFD displayed from the two drop-down menus at the top or simply with the drag & drop option.

The Bid/Ask screen and chart are also available on PowerBoard.



7.b. Order entry

Three types of orders are available: LIMIT and Conditional orders, with which you send Fineco an order to buy or sell a CFD if the market reaches a certain level and MARKET orders, which can be used to apply the quote available at the current price.

ORDER ENTRY

The same order entry screen is available in the expanded row and in PowerBoard. To buy you must apply the ask price; to sell you must apply the bid price.

You must indicate the following for every order:

Number of lots: for each instrument the lot corresponds to an underlying equivalent value.

Type: the type of order submitted. It can be "Market", "Limit" or "Conditional".

Price: LMT (limit price); MKT (market).

Validity: Day, your order is valid until closure of the underlying instrument; GTC, "good till cancelled".






Intraday Trad: (operations that must be closed at the end of the day); Multiday (valid for several days).

Margin: **by choosing Intraday trading, the margin levels you can select are: from 1% to 100%**

Should you choose Multiday trading, the margin can be selected from a predefined list from 7% to 100%

7.c. Order Screen



By clicking on the "CFD" link in the PowerDesk screen you can see all the orders entered on CFDs.

MONITOR ALERT&CONDITION P & L BASKET									
SECURITIES DERIVATIVES FOREX CFD DO 2 STAT... All      ALL									
SYM	ST	L/S	ENT.Q	ENT.P	EXE.Q	EXE.P	STOP		
▼ NASDAQ...	CL	-	-	-	0	0.000	-	...	
- 16:03:49	EX	S	1	0.000	1	5048.500	-	...	R
- 15:53:19	EX	B	1	0.000	1	5045.700	-	...	R

> **Summary row:** The first row summarises the overall balance of the position and indicates:

- SYM: the position cross symbol.
- ST: status of the position; OPEN (open position); CLOSED (closed position).
- L/S: position sign; Ov (Multiday or Overnight cross position); In (Intraday cross position).
- ENT.Q: quantity of lots entered on the position
- ENT.P: price entered
- EXE.Q: quantity of lots executed on the position
- EXE.P: average carrying value of the position
- STOP: indicates the price level at which the position will automatically be closed
- DATE: the date of first opening of the position
- Margin: margin percentage with which the position was opened

> The columns relating to single orders indicate instead:

- SYM: the time the order is executed.
- ST: order status; EN (order entered); CA (order cancelled); EX (order executed);
- **L/S**: order sign; L (long buy order); S (short sell order).
- ENT.Q: quantity of lots entered, referring to the order
- ENT. P: the price entered on the market
- EXE.Q: quantity of lots executed on the individual order
- EXE.P: the price at which the individual order was executed
- DATE: the date on which the order is executed
-  repeat order button
-  button to cancel entered orders

7.d. Portfolio

All the open positions on this market are grouped in the portfolio area dedicated to CFDs. The individual columns indicate:

PORTFOLIO										
SECURITIES DERIVATIVES FOREX CFD										
SYM	QTY	P&L THEORETIC	P&L GBP	CLOSE	AVERAGE PR	MKT PRICE	VAR%	CAR VAL	MKT VAL	TYPE
▶ AAPLK...	1	2.940 USD	2.380	C	116.710	119.650	2.52%	116.710	119.650	MO 10.0

- SYM: the symbol of the CFD related to the open position.
- QTY: quantity of lots in the portfolio and sign (+ or – according to whether the position is long or short)
- THEORETICAL P&L: the theoretical profit and loss deriving from your transactions. It is always expressed in the currency of the underlying CFD.
- P&L Euro: this is the real-time conversion of the provisional P&L in Euros. The definitive P&L in Euros will be determined based on the closing exchange rate.
- CLOSE: this button automatically closes your position with a market order.
- Average price: the average carrying value of the position.
- Market price: value of the CFD updated in real time (bid price quote for long positions and ask price quote for short positions).
- %VAR: percentage change of the PL
- CARRYING VAL: equivalent carrying value in the currency of the underlying
- MARKET VAL: equivalent value at the market price
- TYPE: indicates whether the position is open in intraday or overnight margin trading and the related %
- CUR: indicates the reference currency of the CFD

7.e. Profit & Loss realised

With PowerDesk, you can view all profits and losses made during the day through transactions on CFDs.

You can access the details of CFD transactions in the P&L panel.

The first row summarises the profit and loss relating to all the closings made in the day on a single CFD. By expanding the row the single closings with the related P&L are shown.

The following is displayed for each closing:

- SECURITY: exchange rate at which the position was closed
- POSITION: the position type (Long/Short)
- TIME: the time at which the position is closed
- TOT P&L: profit and loss per individual position (updated in Euros)
- P&L PERC: profit and loss shown as a percentage
- QTY: overall amount of the position

- AVERAGE CARRYING VALUE: average carrying value of the position (opening value)
- AVERAGE CLOSING PRICE: price of the position on closing (closing value)
- CARRYING VAL: equivalent value of the position on opening
- CLOSING VAL: equivalent value of the position on closing
- CURRENCY: the currency with which the closing is updated

7.f. Intraday Positions

Intraday trading implies that the position lasts only the one day: i.e. the position must be closed on the same day of opening. If some positions are still open at the close of the Intraday trading session, Fineco automatically closes all these positions without charging any penalties.

For Intraday trading, select "MI" in the "Trading" drop-down menu in the order entry screen.

You cannot open an Intraday position and a Multiday position at the same time on the same CFD.

7.g. Multiday positions

All positions still open at the time of closing the day are multiday positions and bear interest.

The interest will be debited or credited according to whether the position is long or short, subject to applying a spread in favour of the bank.

8. Spot FX trading

You can buy and sell over 50 Forex market exchange rates directly from the PowerDesk platform. By clicking on the "Forex" link in the PowerDesk drop-down menu you can access the list of available currencies. The following is displayed for each exchange rate:

SYM: the symbol which identifies each exchange rate.

DESCR: the extended description of each exchange rate (for example Euro/Dollar).

BID P.: bid price. By applying this price, you sell the currency pair (you are selling the base currency and buying the quote currency).

ASK P.: ask price. By applying this price you buy the currency pair (you are buying the base currency and selling the quote currency).

MIN: the lowest bid price quoted by the Bank from 23:00 on the previous day.

MAX: the highest ask price quoted by the Bank from 23.00 on the previous day.

CHG: percentage change in the current bid price over the closing price of the previous day.

TIME: time of the last change.

POWERDESK

Profit & Loss: --

Balance GBP

Book.Ass. --

£ \$ WORKSPACE

FTSE 1007197.990-0.14%

DAX3011557.790-0.34%

Eurostoxx 500.0000.00%

DJ19732.400-0.37%

NSDQ1000.0000.00%

S&P

FOREX

Search

LIST1LIST2LIST3LIST4LIST5LIST6LIST7LIST8BEST-WORST

SYM	LAST	VAR%	BE	BID G	BID P	ASK P	ASK G	SA	VOLUMES	MIN	MAX
▶ AUDCAD		-0.05%	-	2000000	1.0056	1.0058	2000000	-	0	1.0045	1.0088
▶ AUDCHF		0.00%	-	2000000	0.7597	0.7598	2000000	-	0	0.7583	0.7629
▶ AUDJPY		-0.07%	-	2000000	86.7335	86.7865	2000000	-	0	86.6025	87.0825
▶ AUDNZD		-0.03%	-	2000000	1.0512	1.0515	2000000	-	0	1.0490	1.0536
▶ AUDUSD		0.06%	-	2000000	0.7561	0.7562	2000000	-	0	0.7550	0.7590
▶ CADCHF		0.07%	-	2000000	0.7554	0.7555	2000000	-	0	0.7541	0.7568
▶ CADJPY		0.06%	-	2000000	86.2530	86.2910	2000000	-	0	86.1260	86.4410
▶ CHFDKK		0.04%	-	2000000	6.9296	6.9306	2000000	-	0	6.9231	6.9413
▶ CHFJPY		0.10%	-	2000000	114.1920	114.20...	2000000	-	0	114.00...	114.51...
▶ CHFNOK		0.13%	-	1000000	8.3995	8.4020	1000000	-	0	8.3819	8.4138
▶ CHFSEK		-0.03%	-	2000000	8.8852	8.8878	2000000	-	0	8.8743	8.9194

To trade, you need to ask that the service be activated in the "Request new services" page on the Fineco home page.

You can trade on all currency pairs, selecting the base currency from the drop down menu located at the top centre of the "Forex" watchlist.

8.a. Trading methods

You can trade directly from the "Forex" basket or by entering the exchange rates into one of your personalised Watchlists; in this case you need to indicate the symbol of the currency pair in the "sym" box and add it to the list like any other financial instrument.

There are three different methods available: Expansion of the row, Powerboard, and the new MultiBook.

GBPUSD		-	0.45%	-	3000000
Bid			Ask		
1.25741			1.25753		

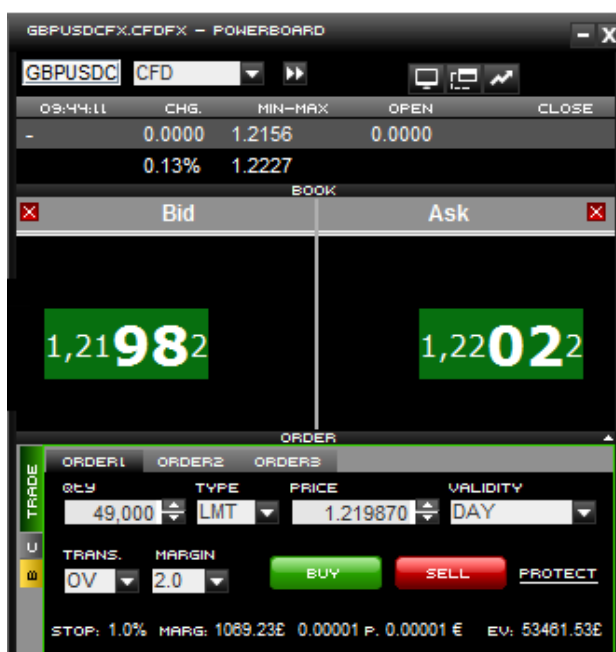
- By expanding the row of a single currency pair both the bid and ask prices are displayed: the two most significant decimals (also called pips) are highlighted with a larger font.

The book can be displayed on the right or left of the order entry, as can the order screen and the Bid/Ask chart.

- A dedicated PowerBoard is available for the Forex market: at the top you can see the bid and ask prices with the order entry screen immediately below.

You can change the exchange rate displayed directly from the two drop-down menus at the top or simply with the drag & drop option.

The Bid/Ask screen and chart are also available on PowerBoard.



- The new MultiBook is the interface specifically dedicated to Spot FX Trading: you can view the quotes of all currency pairs in the Forex Watchlist.

› Click on "multibook" to open a dedicated pop-up: you can add other currency pairs by clicking on "add book". Each exchange rate can be moved or deleted by clicking on "align all". By clicking on "delete all", you delete all currency pairs in the window;

› Trading is quick and simple: click twice on the price to open the order entry where you can enter your market orders.

FOREX MULTIBOOK

All

All

ADD BOOK

ALIGN

CANCEL ALL

AUDCADCFX		AUDCHFCFX		AUDJPYCFX		AUDNZDCFX	
MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1.00977	1.01877	0.75436	0.76008	79.166	79.868	1.06898	1.06879
✖ Bid	Ask ✖	✖ Bid	Ask ✖	✖ Bid	Ask ✖	✖ Bid	Ask ✖
1.018320	1.018490	0.759730	0.759860	79.840000	79.851000	1.068020	1.068380
AUDUSDCFX		CADCHFCFX		CADJPYCFX		CHFDFX	
MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
0.75885	0.76469	0.74865	0.74867	78.007	78.53	6.86721	6.89083
✖ Bid	Ask ✖	✖ Bid	Ask ✖	✖ Bid	Ask ✖	✖ Bid	Ask ✖
0.764540	0.764640	0.746020	0.746110	78.399000	78.406000	6.871790	6.872800

8.b. Order entry

There are three different types of orders for trading on the Forex market: LIMIT and STOP orders, with which you can send FinecoBank an order to buy or sell a currency amount if the market reaches a certain level and MARKET orders, which are used to apply the price available at the current exchange rate.

ORDER ENTRY

The same order entry screen is available in the expanded row, in PowerBoard and in Multibook. To buy you must apply the ask price; to sell you must apply the bid price.

You must indicate the following for every order:

- Amount: the list of predefined amounts relating to the base currency.
- Type: the type of order entered. This can be a "Market", "Limit" or "Stop" order.
- Price: LMT (limit price); MKT (market)
- Validity: Day, your order is valid until 10:00 PM (until 9:50 PM for Intraday orders); GTC, "good till cancelled".
- Intraday Trad: (operations that must be closed at the end of the day); Multiday (valid for several days).
- Margin: **by choosing Intraday trading, the margin levels you can select are: 1% and 1.5%**

Should you choose Multiday trading, the margin can be selected from a predefined list from 2% to 30%

> MARKET order

You can use this order to buy or sell at current market prices.

The order allows you to trade immediately, buying at the ask price and selling at the bid price.

You therefore accept the price quoted by the market at the time it receives your order.

> LIMIT order

You can use this order to

- buy at or below the market price
- sell at or above the market price

It is generally used to make a profit on an already open position and in this case it can also be defined as a "Take Profit" order. Alternatively it can be used to open a new position.

You can submit LIMIT orders to buy at a price below market prices and to sell at a price above the current price.

However, these orders will be executed:

- If you are buying, when the market ask price reaches that level.
- If you are selling, when the market bid price reaches that level. In these cases they will only be executed at the indicated price, neither worse nor better.

> **STOP order**

A Stop order is entered when you want to:

- buy at a price above the market price
- sell at a price below the market price

A Stop order is generally entered in order to limit a potential loss in relation to an open position and in this case it can also be referred to as a "Stop Loss" order. For this reason, when the price condition you have indicated is met, the STOP order is entered as a MARKET order so as to guarantee its execution in any case, even though the executed price may be slightly different than the indicated condition. A STOP order can also be used to open new positions when reaching a certain technical level that is deemed significant. In this case it is defined a "Stop Entry" order.

> **Operating notes:**

- A Buy STOP order can be only be executed when the ask price reaches the indicated level. It is possible that the order could be executed at a price that is slightly higher by a few pips owing to exceptional market conditions.
- A Sell STOP order can be only be executed when the bid price reaches the indicated level. It is possible that the order could be executed at a price that is slightly lower by a few pips.

The STOP order windows on PowerDesk are set up to be as intuitive as possible: if you select "buy", the "ask price" field is predefined by default, if instead you select "sell", the "bid price" field is predefined by default.

8.c. Order Screen


By clicking on the "forex" link in the PowerDesk screen, you can display all the orders that have been placed on currencies.

MONITOR ALERT&CONDITION P & L BASKET									
SECURITIES DERIVATIVES FOREX CFD									
DO 1 STAT... All [Icons: Stop, Alert, Refresh, Print, Copy, Paste, ALL]									
SYM	ST	L/S	ENT.A	ENT.P	EXE.A	EXE.P	STOP		
▼ GBPUSD	OP	Ov	-	-	0	0.00000			
- 13.46.20	EN	S	7000	1.23000	0	0.00000			X

> **Summary row:** The first row summarises the overall balance of the position and indicates:

- SYM: the position cross symbol.
- ST: state of the position; OP (open position); CL (closed position).
- L/S: position sign; Ov (Multiday or Overnight cross position); In (Intraday cross position).
- EXE.A: the total value of the position.
- EXE.P: the average book value of the position.
- DATE: the date of first opening of the position.

> The columns relating to single orders indicate instead:

- SYM: the time the order is executed.
- ST: the order status; ENT (order entered); CAN (order cancelled); EXEC (order executed); EO (for Multiday positions: automatically reopened in the evening); EC (for Multiday positions: automatically closed in the evening); RO (for Multiday positions: automatic opening in the evening rejected); RC (for Multiday positions: automatic closing in the evening rejected).
- **L/S**: order type; L (Long buy order); S (Short sell order).
- ENT.A: the amount of the order (as an absolute value) referred to the base currency.
- ENT. P: the price entered on the market
- EXE.A: the executed amount
- EXE.P: the price at which the individual order was executed
- COND: any stop order price set by the customer
- DATE: the date on which the order is executed
-  button to cancel orders

8.d. Portfolio

You can view all open positions on the currency market in the Forex area of the portfolio. The individual columns indicate:

PORTFOLIO											
SECURITIES DERIVATIVES FOREX CFD											
SYM	EXP	SIGN	AMOUNT	P&L	P&L GBP	CLOSE	AVERAGE PR	MKT PRICE	CAR.VAL	MKT.VAL	VAR
USDMXN	Ov	Short	150000	41545.20 MXN	1535.06	C	21.7726	21.4956	3265888.2000	3224343.0000	1.27%
GBPUSD	Ov	Long	63000	1092.55 USD	867.58	C	1.24023	1.25757	78134.36400	79226.91000	1.40%
EURUSD	Ov	Long	20000	-14.60 USD	-11.59	C	1.07543	1.07470	21508.60000	21494.00000	-0.07%

- SYM: the cross symbol related to the open position.
- QTY: the quantity in the portfolio
- EXP: In (Intraday position expiring at the end of the day) Ov (Multiday position).
- Sign: Long indicates a bullish position on the currency pair, Short indicates a bearish position.
- Amount: overall amount of the position.
- THEORETICAL P&L: the theoretical profit and loss deriving from your transactions. It is always expressed in the quote currency (the denominator).
- P&L Euro: this is the real-time conversion of the provisional p&I (cross quote currency) in Euros. The definitive P&L in Euros will be determined based on the closing exchange rate)
- CLOSE: this button automatically closes your position with a market order.
- Average price: the average carrying value of the position.
- Mkt Price: the value of the currency pair updated in real time (bid price quote for long positions and ask price quote for short positions).
- CARRYING VAL: equivalent carrying value in the quote currency.
- MARKET VAL: equivalent value in the quote currency at the market price.
- CHG: P&L as a percentage, calculated as the difference between the market value and the carrying value

8.e. Profit & Loss realised

With PowerDesk, you can view all profits and losses made by trading on the Forex market.

By clicking on the "FOREX" link in the dedicated panel you can only access the transactions concluded through the Trading Spot FX service.

The first row summarises the gains and losses concerning all the positions closed during the day on a single currency pair. By expanding the row the single closings with the related P&L are shown.

The following is displayed for each closing:

- SECURITY: exchange rate at which the position was closed
- POSITION: the position type (Long/Short)
- TIME: the time at which the position is closed

- TOT P&L: profit and loss per individual position (updated in Euros)
- P&L PERC: profit and loss shown as a percentage
- QTY: overall amount of the position
- AVERAGE CARRYING VALUE: average carrying value of the position (opening value)
- AVERAGE CLOSING PRICE: price of the position on closing (closing value)
- CARRYING VAL: equivalent value of the position on opening
- CLOSING VAL: equivalent value of the position on closing
- CURRENCY: the currency with which the closing is updated

8.f. Intraday Positions

Intraday trading implies that the position lasts only the one day: i.e. the position must be closed on the same day of opening. If some Intraday positions are still open at the close of the trading session (9:50 PM), Fineco automatically closes all these positions by 10:00 PM without charging any penalties.

Intraday orders can be placed from Monday to Friday from 5:15 AM to 9:50 PM (orders placed via the call centre can be sent from 7:00 AM). For Intraday trading, select "MI" in the "Trading" drop-down menu in the order entry screen.

You cannot open an Intraday position and a Multiday position at the same time on the same currency pair. The margin for Intraday transactions varies from 1% to 1.5%; the Stop Loss value is equal to half a per cent less than the margin level, i.e.: 0.5% or 1% respectively.

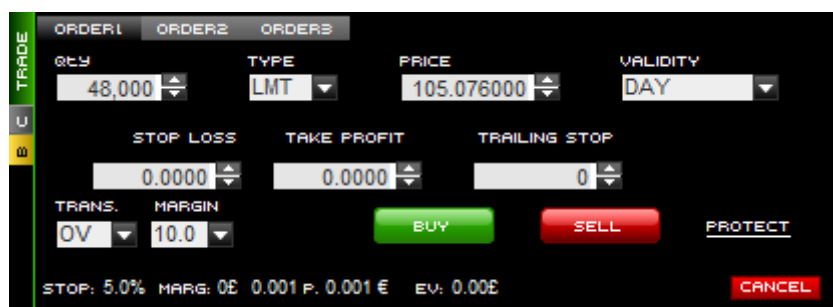
8.g Entering Stop Loss, Take Profit and Trailing Stop conditions


It is possible to place automatic orders (Stop loss, Take profit and Trailing) from 5:30 AM until 9:50 PM exclusively on currencies for which intraday trading may be carried out.

Should there be, for any reason, any intraday position still open after 9:50 PM, Fineco will automatically close this by 10:00 PM. Furthermore, all orders still placed on Intraday positions at 9:50 PM, will be cancelled.>

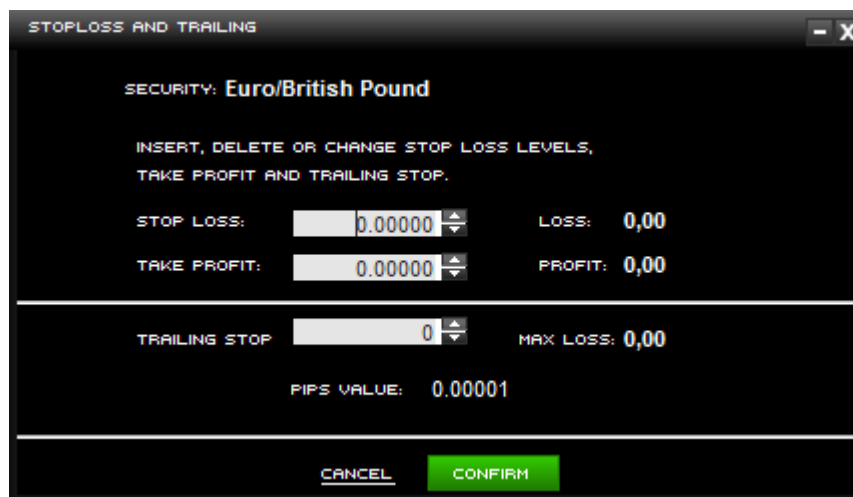
Entering Stop Loss, Take Profit and Trailing Stop conditions on individual orders

SL, TP and Trailing conditions can be entered during the order entry stage by clicking on the specific link. In this case the order entry screen expands offering the option of entering an SL or TP order.



After entering an order with Stop Loss or Take Profit conditions, the button  shrinks, showing the predetermined price for the corresponding Stop Loss or Take Profit

To edit the values entered, simply click on the arrows of the related box and click on confirm; to cancel the values entered just click on the “x” button.




> Stop Loss and Take Profit conditions on the position


Stop loss and Take Profit conditions can be entered on the intraday position, but no Trailing stop can be entered.

The specific button will be displayed next to the string of the open position in the Order Screen

, which will show the default price levels after an SL or TP has been entered.

> **Protect** : this button allows you to enter/edit Stop Losses, Take Profits and Trailing Stops on the order.

If a Stop Loss or Take Profit is entered, the size of the button is reduced, showing the predetermined price for the corresponding Stop Loss or Take Profit

Example of an unprotected order: 

Example of an order with a Stop Loss:  (the Stop Loss is always shown on the left)

Example of an order with a Take Profit:  (the Take Profit is always shown on the right)

Example of an order with a Trailing Stop:  (the protect button on the left is a lighter colour)

Enter

As no Last is available on the foreign exchange market, but always a bid/ask price, we must consider that any set stop loss, take profit or trailing stop held on the Fineco servers, will be activated and sent to the market when the bid/ask condition occurs, according to whether the position is short or long.

- Any stop loss, take profit and trailing stop **on long positions** will be verified against the currency's bid quote. Conversely, any stop loss, take profit and trailing stop **on short positions** will be verified against the currency's ask

quote.

Important notes:-> The joint use of Stop Loss and / or Take profit on the order and on the position may not result in the immediate closing of the position, thereby producing its rollover.> The orders entered (including conditional orders) which are not yet executed always keep the position open.> Before Fineco sends the automatic Stop Loss, any orders entered on the position which is about to close will be cancelled.> Trade & Reverse cancels any Stop loss and Take profit placed on the position, but does not modify the settings placed on the single orders which remain active.

8.h Multiday positions

All positions open at the time of closing the service (10:00 PM) are automatically closed and reopened by Fineco. This mechanism allows keeping positions open for several days, avoiding the physical delivery of the currency.

At 10:00 PM, Fineco closes the position and opens a new one with the same margin, amount and price.

The reopening price is the same used to close the position and is not increased by any bid-ask spread.

Reopening updates the carrying value which takes into account the difference between the rates of the two currencies on which a position is open: the rate on the bought currency is receivable, while that of the sold currency is payable.

Any Pips are deducted from or credited to the new carrying value.

8. CFD Logos Time

With PowerDesk you can trade CFDs Logos Time with Shares, Currencies and Futures (indexes, commodities or bonds) as underlying assets.

For each CFD Logos Time, the platform shows:

SYM: the symbol identify each CFD Logos Time.

DESCR: extended description of each CFD Logo Time (E.g: FTSE100).

LAST: last price registered by the Bank

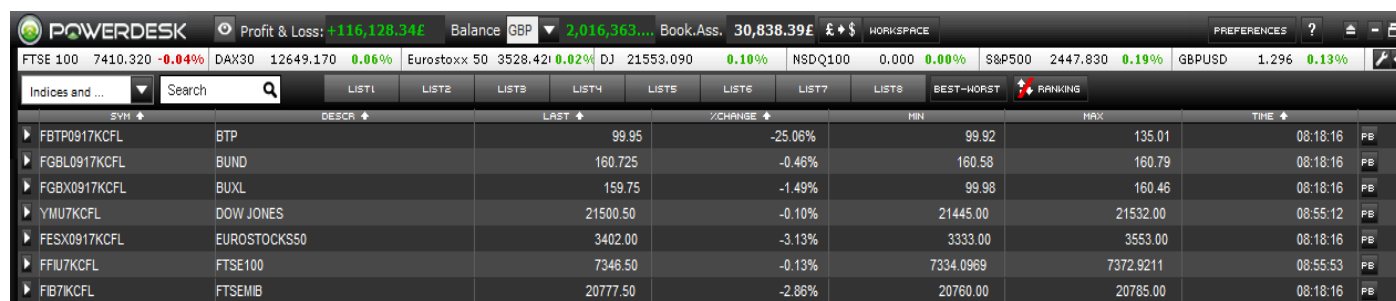
CHANGE%: percentage change is the difference between the current value and the previous day's closing price.

MIN: lowest price registered by the Bank throughout the day.

MAX: highest price registered by the Bank throughout the day.

P.REF: previous day's closing price.

TIME: time of last change.



SYM	DESCR	LAST	%CHANGE	MIN	MAX	TIME	PB
FBTP0917KCFL	BTP	99.95	-25.06%	99.92	135.01	08:18:16	PB
FGBL0917KCFL	BUND	160.725	-0.46%	160.58	160.79	08:18:16	PB
FGBX0917KCFL	BUXL	159.75	-1.49%	99.98	160.46	08:18:16	PB
YMU7KCFL	DOW JONES	21500.50	-0.10%	21445.00	21532.00	08:55:12	PB
FESX0917KCFL	EUROSTOCKS50	3402.00	-3.13%	3333.00	3553.00	08:18:16	PB
FFU7KCFL	FTSE100	7346.50	-0.13%	7334.0969	7372.9211	08:55:53	PB
FIB7KCFL	FTSEMIB	20777.50	-2.86%	20760.00	20785.00	08:18:16	PB

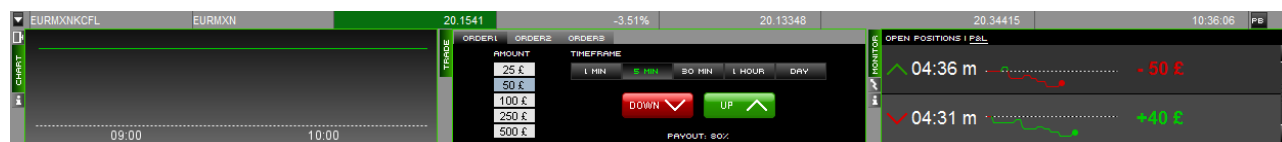
In order to trade on derivatives you have to subscribe the Derivatives Trading Service from the Client Area in the "Account management" - "Managing services" section of our website or directly when you are opening your account.

8.a. Operational Modes

You can trade CFDs Logos Tim directly from the selectable baskets in the drop down menu or by adding instruments inside customized watchlists.

You can enter orders through:

- Expanded line



- the Powerboard



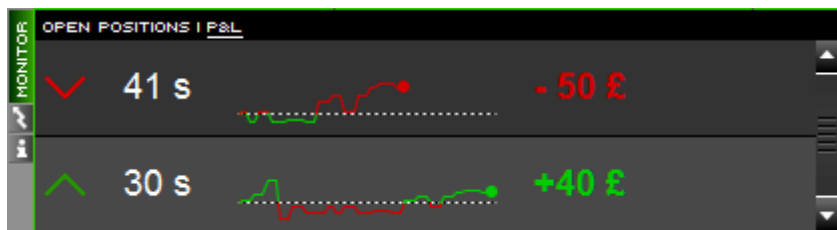
Both show:

- intraday chart that shows the real time trend of the instrument



- the order insertion mask which allows to select the margin, the sign and duration of the position.

- P&L and Open Positions monitor



In order to place an order, both from expanded line and from Powerboard, you have to select the margin amount, the sign (Up/Down) and the duration.

Before the opening of the position you will be asked to confirm the order by entering your PIN.

Open positions details are shown in the monitor.

The countdown represents the time left until the position expires.

The chart of the position shows whether the position is in Loss or Gain. The dotted line represents the opening price of the position. The P&L of the position is shown on the side.

8.b. Orders Monitor

By clicking on the “Logos Time” you can see all the placed orders on CFDs Logos Time with further details:

SYM: symbol of the position

ST: Status of the position: “OP” (Opened position) o “CL” (Closed position)

AMOUNT: margin deposited to open the position.

PRICE: opening price of the position.

DURATION: timeframe chosen while entering the order.

PAYOUT: means the factor that quantifies the profit percentage for you after CFD Logos Time positions closed with profit.

DATE-TIME: the date and time when the order was placed.

8.c. Portfolio

PORTFOLIO									
SECURITIES DERIVATIVES FOREX CFD LOGOS TIME									
SYM	SIGN	P&L GBP	AVERAGE PR	MKT PRICE	AMOUNT	DURATION	EXPIRY DATE	PAYOUT	
YMU7KCCB	DOWN	20.00	21495.50	21494.50	25.00	5 MIN	14/07 09.53.41	80%	
GCQ7KCCB	UP	-50.00	1217.90	1217.80	50.00	5 MIN	14/07 09.52.48	80%	
GCQ7KCCB	UP	-50.00	1217.90	1217.80	50.00	5 MIN	14/07 09.52.44	80%	
EURCADKC...	UP	40.00	1.45383	1.45389	50.00	5 MIN	14/07 09.52.28	80%	

The Logos Time portfolio shows all the open positions and further details:

SYM: symbol of the position.

SIGN: UP/DOWN depending on the choice made while placing the order.

P&L GBP: the theoretical loss or gain updated in real time.

AVERAGE PR: opening price of the position.

MKT PRICE: price of the instrument updated in real time.

AMOUNT: margin deposited to open the position

DURATION: timeframe chosen while placing the order.

EXPIRY DATE: the date and time the position will be closed.

PAYOUT: the factor that quantifies the profit percentage for you after CFD Logos Time positions closed with profit.

8.d. Profit & Loss realised

Inside the P&L panel it is possible to see all the gains and losses realised during the day on CFDs Logos Time.

The first line shows the overall P&L realised on a selected instrument.

By expanding the line all the trades are shown with their respective P&L

SECURITY	POSITION	TIME	P&L TOT	% P&L	QTY	AP OPEN	AP CLOSE	BOOK VAL.	CL VAL.	CURRENCY	MARKET
▶ YMU7K...			-25.00								CFDL
▶ YMU7K...			-100.00								CFDL
▶ EURCA...			40.00								CFDL
▼ EURCA...			-40.00								CFDL
EURCA...	UP-1 MIN	09:10:45	40.00	80.000...	50	1.45498	1.45536			GBP	CFDL
EURCA...	UP-1 MIN	09:37:28	-50.00	100.00...	50	1.45374	1.45374			GBP	CFDL
EURCA...	UP-1 MIN	10:07:42	20.00	80.000...	25	1.453	1.45306			GBP	CFDL
EURCA...	DOWN-1...	09:10:55	-50.00	100.00...	50	1.45496	1.45527			GBP	CFDL

For each order further details are shown as below :

SECURITY: the instrument on which the operation was carried out.

POSITION: the sign (Up/Down) and the duration of the operation.

TIME: the time the order was placed.

P&L TOT: the gain or loss for each trade.

% P&L: the percentage profit or loss for each trade.

QTY: the deposited margin.

AP OPEN: Opening price of the position.

AP CLOSE: Closing price of the position.

9. PowerChart

1. General description

PowerChart is one of the most advanced systems for studying market trends and financial instruments thanks to its indicators and chart studies, to the interactivity and the usability. It is also fully integrated with PowerDesk2.

Professional – It is the ideal support tool for your analysis and investment activities.

Advanced and comprehensive - The wide range of indicators and advanced charting studies allows it to meet the needs of even the more experienced analysts.

Easy to use – A simple and intuitive interface and the possibility of calling up all its features with just one click make it an instrument suitable for private investors as well.

Customisable - With a simple click of the mouse you can choose and define the layout, the size, the colours, the parameters of the indicators and the time frame.

Push - Real time updates by push technology for fast analysis and decisions.

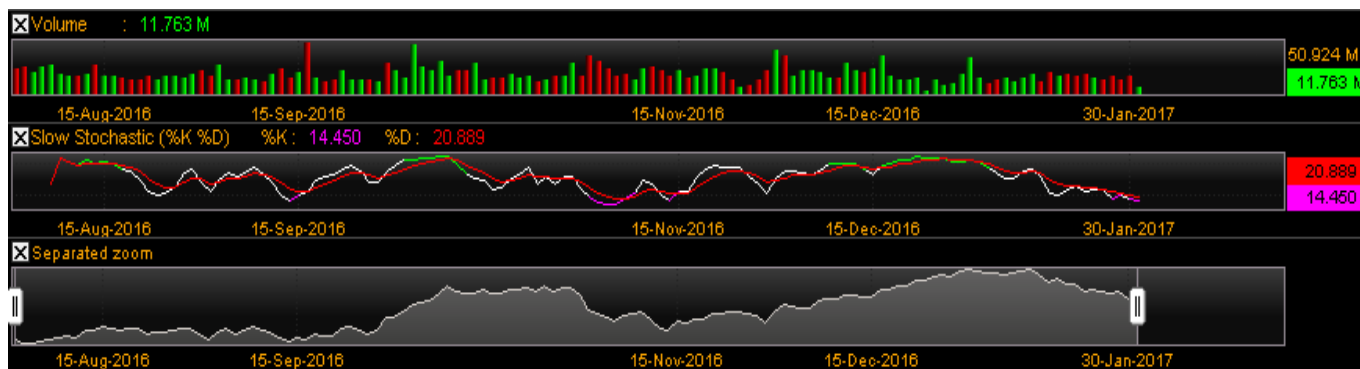


The main features are controlled via the icons arranged around the chart area which allow you to select the main features of the application which are then displayed in the main panel and in the two side panels.

The main panel shows the previous historical chart of the security:



The subpanels show the volumes, technical indicators or the zoom:



When the indicator is displayed, the label values appear on the upper left edge and on the right edge of the panel. These labels take on the same colour as the indicator:

☒ Slow Stochastic (%K %D) %K: 14.579 %D: 20.932

The indicator name (whether volume or zoom) can be removed from X, and you can open the features for any selected indicator:

Parameter	Value	Color
%k	5	Perc K color
%d fast	3	Perc D color
OB	80	OB color
OS	20	OS color

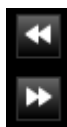
Buttons: LOAD DEFAULTS, CONFIRM, CANCEL, REMOVE

2. Management controls and Features

2.a. Zoom, shifts on the chart and grids



To use the chart's zoom press the "Chart Zoom in" button to enlarge it. By clicking "Shrink Chart" you will have the opposite effect.



To scroll the chart, click on the arrow keys, or the scroll bar at the bottom of the chart window.

2.b. Data viewing mode



By clicking on the "Pointer" icon you can access the cross-hair, horizontal line and vertical line cursors. When selecting the cross-hair or the vertical cursor, sliding the mouse on the central panel, the following will be dynamically displayed: Date, Time, Opening, High, Low, Close, Volume and Variation.



If data are not displayed correctly, just click on "Reload Data". You will not lose data already configured in the chart.



Should there be more than one trendline drawn on the chart, and none is selected, the "Undo" button clears all drawn trendlines. To delete a single trend line you must select it and then click the button.



By clicking on the Linear Scale icon, you can choose whether to display the charts in a linear or logarithmic scale.

2.c. Analysis Charts



By clicking on the icon at the side, you can view the various types of charts: linear, bar, candlestick, candle volume, equivolume and mountain charts.



Later we will explain in detail each of the views and how they are generated.



Compare charts, comparative performance charts. By selecting this



icon, you will access the Point and Figure chart.



Price Distribution correlates the volumes traded with the prices. Click again to return to the previous screen.

2.d. Manual tracing of Chart Studies



By clicking on the icon at the side, you can choose which trendline to track. The trendline can be free, parallel, horizontal and vertical. The simple trendline

indicates the % of variation and the deviation between one point and the other of the straight line.



By clicking on the icon, you can choose to draw the following studies: Gann Fan, Fibonacci retracement levels, Fibonacci Time Zones, Fibonacci Fan, Fibonacci Arc.



By clicking on the icon, you can choose to draw the following studies: Quadrant lines, Tirone Levels, Speed resistance lines, Speed Resistance Arcs.

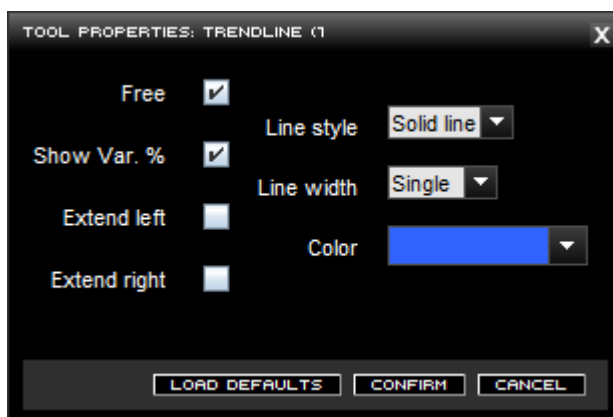


By clicking on the icon, you can choose to draw the following studies: Linear Regression Trendline, Raff Regression Channel, Standard Error Channel, Standard Deviation Channel.

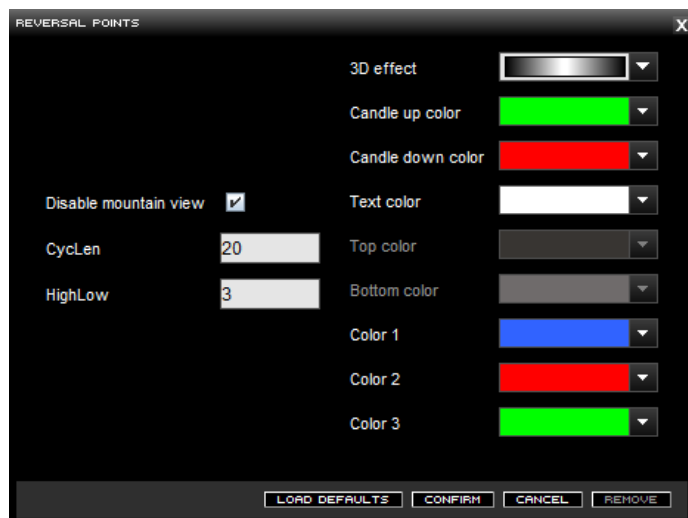


By clicking on the icon you can highlight areas of the chart and customise these in size and colour. You can choose a rectangular or an elliptical shape. Finally, by clicking the T (text) button you can enter text comments directly on the chart. By right-clicking on the object you obtain the properties for all three types.

By right-clicking on the single drawn trendline, you can access the trendline's properties panel:



The same applies to advanced studies; by right-clicking on the study you enter property panel management:

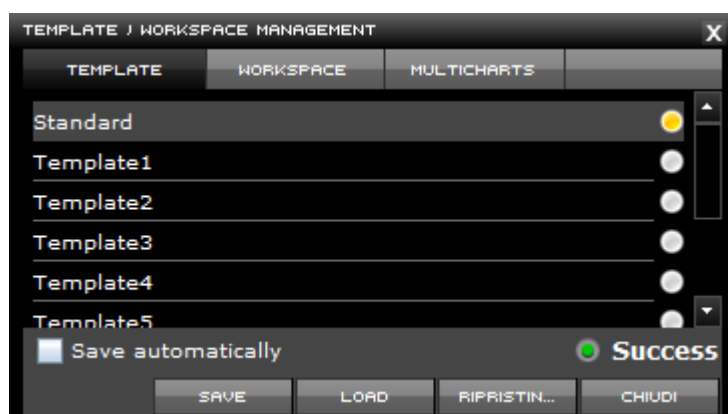


2.e. Edit Parameters, Save Studies and Additional Data



It is possible to save your studies on a particular security (Workspace), copy specific features according to your preferences to all the charts used (Template), or display the specific multichart you have created.

When I apply my favourite indicators and advanced studies, I can save them to a Template and reload them at any time, on any open instrument. I can save up to 10 Templates.



By clicking on the "workspace" tab you can save, retrieve and modify up to 10 workspaces: your analysis or chart studies for a single security.

In addition, you can recall up to 10 Multicharts in order to view the charts of your favourite securities simultaneously.

2.f. Print features



By clicking on the icon, you can choose to save to your desktop or to print the chart below.

2.g. Overlapping zoom feature



You can zoom in a portion of the chart. By clicking the icon at the side, you activate the zoom (the lens becomes dark), then you can select the area of interest in the chart and zoom as you wish. To return to the screen before zooming, you have to click twice on the lens with the mouse (reset).



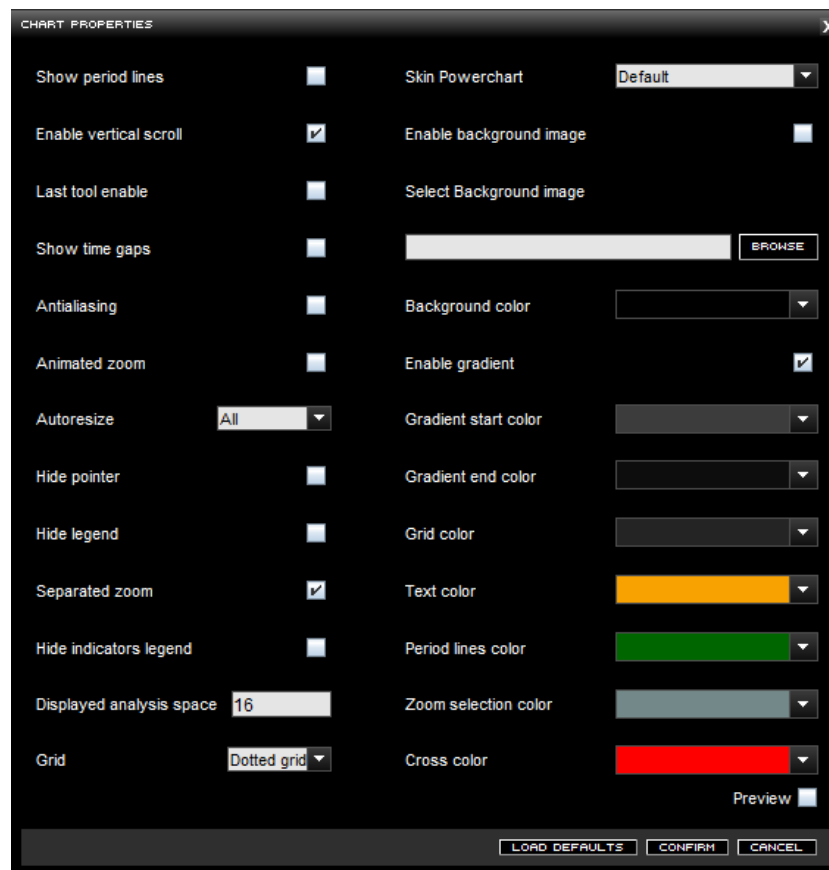
2.h. General notes

1. Some icons have a small black triangle in the lower right corner, this indicates that there are several instruments of the same functional class, accessible through a pop-up menu. Select any icon showing a triangle, click it and by holding the mouse button, you'll see the other available instruments.
2. Next to the sidebars buttons and below the upper menu bar, you may find some small white triangles with which you can temporarily hide the bars so as to enlarge.
3. By double-clicking the left button, you can expand the timeframe of the chart to a full screen. The mouse right button, instead, can open the properties of the chart's candles as well as the trendline, indicators, etc.
4. By clicking and dragging with the left mouse button, you can scroll the chart.

2.i. Settings: Chart properties



From this icon you can access the Properties chart. Under the picture of the panel to manage your preferences.



The features are intuitive, the flag enables/disables the action shown alongside.

The Grid tool lets you define the type of grid highlighting you want: dotted grid, a grid line, no grid.

The Skin Powerchart tool allows you to select the chart background colour: the Default selection allows you to automatically change the colour of the chart depending on the colour you have chosen as the backdrop to Powerdesk platform.

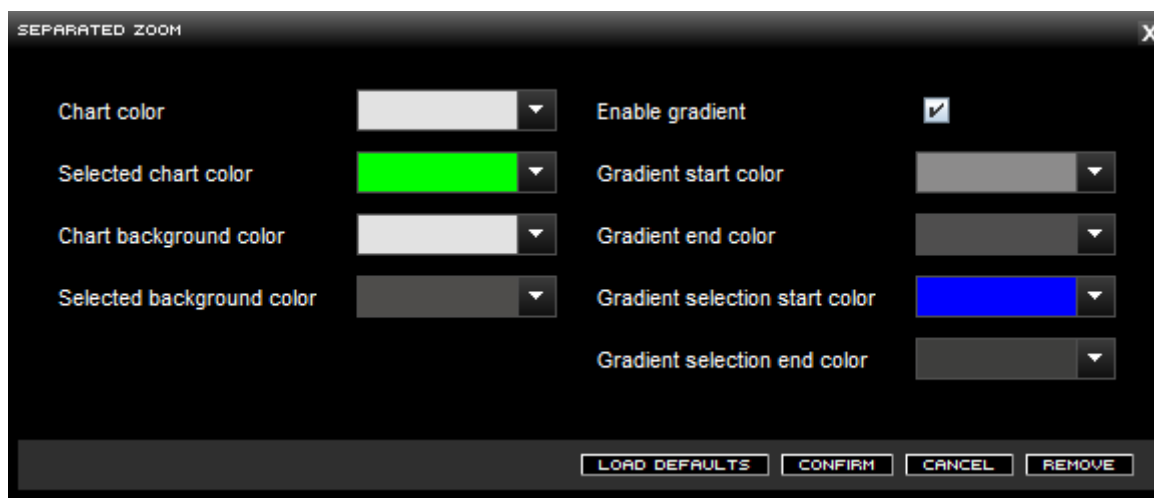
The Preview flag allows you to instantly see your choices on the chart, before confirming them.

The separate zoom, flagged by default, allows you to view the following subpanel:



This feature allows you to zoom a particular timeframe of the chart; by clicking with the left mouse button on the scroll you can choose the desired timeframe.

The separate zoom can be managed with the properties panel which may be activated by clicking on the label:



2.j. Export previous operations



From this icon you can view, export and print the historical data of the chart you are looking at. A descriptive example of the new feature is given below.

POWERCHART

History Series: **ADM.L**

DATE	OPEN	HIGH	LOW	CLOSE	VAR % CLOSE	VOLUME
10/08/16	2,243.0	2,258.0	2,240.0	2,248.0	0.00	595031
11/08/16	2,252.0	2,263.0	2,230.0	2,249.0	0.04	708849
12/08/16	2,248.0	2,260.0	2,242.0	2,245.0	-0.18	505916
15/08/16	2,252.0	2,277.0	2,247.0	2,260.0	0.67	799245
16/08/16	2,245.0	2,288.0	2,243.0	2,254.0	-0.27	892381
17/08/16	2,097.0	2,129.0	2,051.0	2,081.0	-7.68	1818907
18/08/16	2,085.0	2,143.5	2,075.0	2,131.0	2.40	885054
19/08/16	2,128.0	2,133.0	2,076.5	2,130.0	-0.05	796423
22/08/16	2,128.0	2,152.0	2,118.0	2,124.0	-0.28	482463
23/08/16	2,134.0	2,144.0	2,122.0	2,122.0	-0.09	486061
24/08/16	2,110.0	2,131.0	2,080.0	2,086.0	-1.70	716765
25/08/16	2,073.0	2,081.0	2,056.0	2,062.0	-1.15	765602
26/08/16	2,060.0	2,071.0	2,041.0	2,044.0	-0.87	715855
30/08/16	2,055.0	2,062.0	2,045.0	2,048.0	0.20	715957
31/08/16	2,050.0	2,068.0	2,049.0	2,050.0	0.10	764028

3. Technical analysis charts

1.a. Linear Chart

A linear chart is the simplest type of chart. The single line represents the closing price on each day. Dates are displayed at the bottom of the chart and prices are displayed on the right side.



The effectiveness of the linear chart is determined by its simplicity, since it represents the price of the financial instrument in an orderly and easy to understand way. Generally, linear charts use the closing prices of the financial instrument.

3.a. Bar Chart

A Bar Chart uses the opening price (if available), the maximum, the minimum and the closing price. Bar Charts are the most popular graphic representations of financial instruments.



As shown in the image below, the upper end of each vertical bar represents the maximum price that the financial instrument reaches during the trading period, whilst the lower end the minimum price. The closing price is highlighted by a horizontal line to the right of the bar. On the left side, there is another horizontal bar line which corresponds to the opening price.



3.b. Japanese Candlesticks

In 1600, Japan developed a technical analysis method to analyse the price of rice. This technique is called Candlestick Charting. Steven Nison made Candlestick Charts very popular and was recognized as the greatest expert in interpreting them.

The Candlestick Chart shows the opening, the maximum and minimum as well as the closing price, in a format similar to the modern daily bar chart, but in a way that minimises the relationship between the opening and closing prices. Candlestick Charts represent a new way of looking at the price and do not require any calculation.

Each candle represents a period (for example one day).

In a Candlestick Chart, in order to represent the oscillation of the price in a set period of time, you use a figure called Candle Line consisting of a central body called Real body, which indicates the price variation between the opening and the closing price, the Shadows, individual thin lines which represent the maximum prices (Upper Shadow) and the minimum ones (Lower Shadow) during the period of time under consideration.

The body of the candle can be (as shown by default in the Chart) green or red: it has a red body when the close is lower than the open and therefore characterises a day with a negative trend, while a green body shows us a bullish day with a closing price higher than the opening one.

Since candles represent the relationship between the open, high, low and close price, they cannot represent a financial instrument not having a closing or opening price. If you want to use a Candlestick Chart for a financial instrument which does not have the opening price, we suggest you use the closing price of the previous day instead of the opening price. This technique can create candles and figures (patterns) which are uncommon but equally valid.



1.b. Equivolume & Candlevolume

The Equivolume represents prices so as to focus attention on the relationship between price and volume. Equivolume was developed by Richard W. Arms, Jr.

Instead of representing the volume as a secondary element on the bottom panel of the chart, Equivolume combines price and volume in a two-dimensional box. The top line of the box is the maximum in the period and the line below the minimum. The box's width is what characterises the Equivolume and it represents the period volume. The image below represents the components of the Equivolume box.



The measurement in the lower part of the Equivolume Chart unit is based on the volume, and not on dates. This suggests that volume, rather than time, is the key element which influences the price change. To quote Arms, "If the market wore a wristwatch it would be divided into parts instead of hours".

3.c. Candlevolume

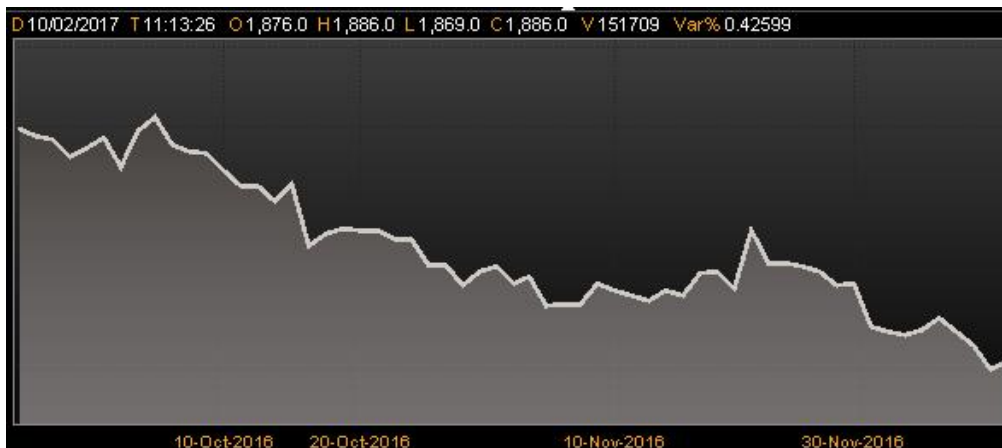
The Candlevolume Chart is a hybrid between the Equivolume and the Candlestick Chart. The Candlevolume Chart has the shadows (or lines) and the characteristic bodies of Candlestick Charts, plus the width of the Equivolume Chart volume. This combination allows you to study the Candlestick configurations and their volume on the basis of the movements.

The structure of each Equivolume box provides a picture of the supply and demand of the financial instrument during the trading period. Short and wide boxes (high volumes accompanied by limited price changes) are found at the reversal points, while high and narrow boxes (reduced volumes accompanied by significant price changes) are mostly found in well-defined trends.

The boxes which push through support and resistance levels are particularly important, since the volume confirms penetration. A "power box" is a box in which both the height and the width increase substantially and it provides an excellent confirmation of the break. A narrow box because of reduced volumes, questions the validity of the break.

3.d. Mountain Effect

The mountain chart is built with the same criteria as the linear one, but it has a different colour called "mountain" effect.



3.e. Compare Charts

The Compare Chart is a progressive, modern tool for comparing the performance of financial instruments in a given period of time.

The 'Performance' is the percentage change in the instrument's closing price over time. This type of chart is very useful for viewing the relative performance, the sector rotation and the correlations between markets.

- Comparison between different instruments: the normalisation of performances enables comparing various types of instruments, such as funds with benchmarks and shares with indexes.
- Dynamic benchmarking: you can calculate performances compared to a reference instrument or a predetermined benchmark.

> Functionality

1. Time frame

From the drop down menu located at the top right, you can select the default period - intraday, daily, weekly, monthly - you want the chart to display.

2. Definition of reference for performance calculation.

There are three ways:

- a. On the basis of the first historical data: the performances are calculated from the first available data.
- b. From the edge of the chart: in this case, the calculation starts from the first data visible on the left edge of the window.
- c. From the selected date: by selecting this item, performances are calculated from the point where the mouse is at

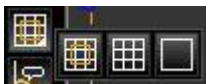
95



that time.

3. Background grid.

You can choose between three types of grids to set as a background to the comparison chart



4. Information management



While passing the mouse on the chart, the "View data labels" feature allows viewing the instrument name, the price, the cumulative percentage variation up to that moment for each point of the historical data.



Gap management: these three buttons change the display of an intraday chart of securities belonging to different countries with different trading times, highlighting any time gaps.



Definition of the zero axis: the icon positions the zero axis at the centre of the window.

5. Different graphical representations



By clicking on the linear chart icon, you can choose the default graphical representation. It can be a linear one where the coloured lines represent the performance trends in the selected period. Or a Histogram, which is useful if the user is not interested in the performance trend, but only in the period's final result.

The candlestick chart icon allows you to return to the previous screen.

6. Scrollbar

The scroll bar allows total control of the historical data:

- Control of the sample on which you wish to perform the analysis (number of selected data)
- The time frame on which you wish to perform the analysis (moving the bar to the right and to the left)
- Control of the start and end points (historical period)

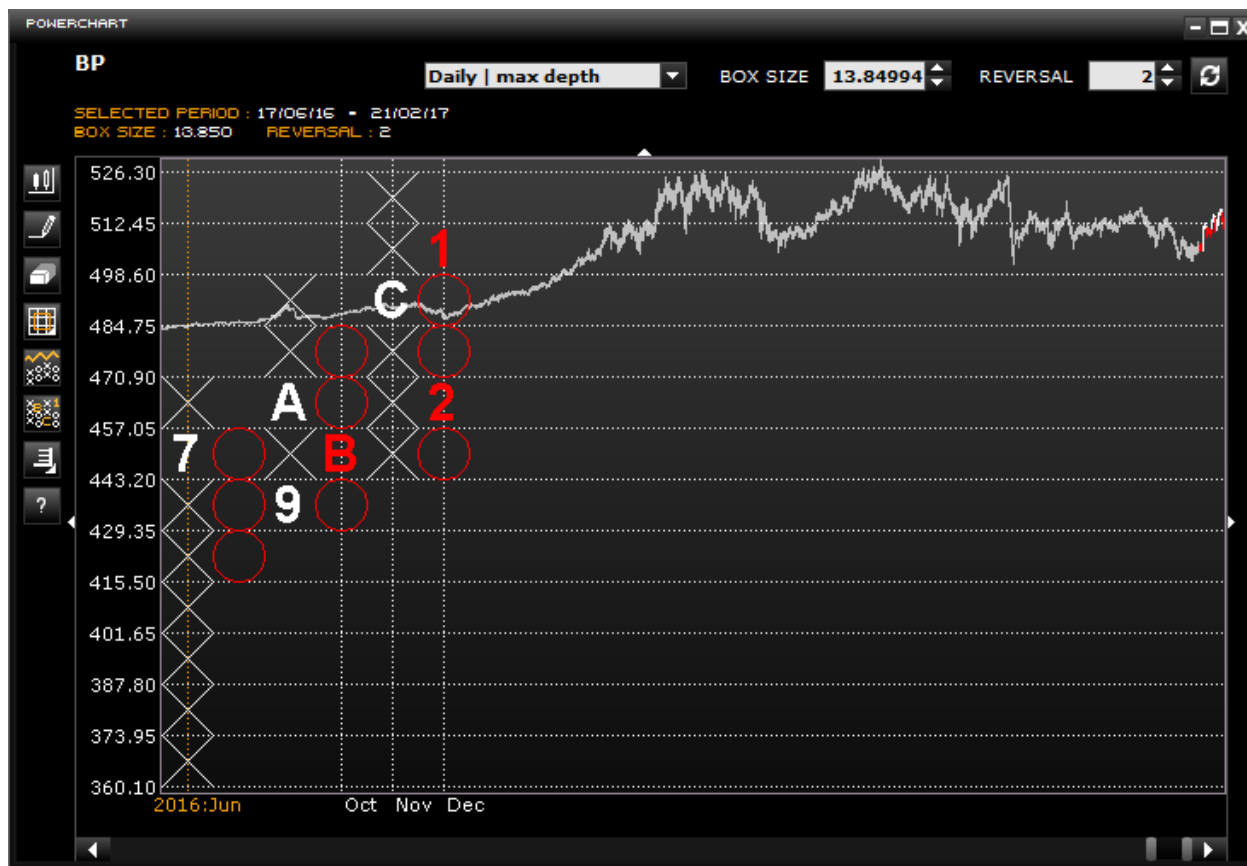


3.f. Point and Figure

The Point & Figure ("P&F") Chart differs from traditional charts as it completely ignores the passage of time and only displays price changes. Rather than having the price on the y axis and the time on the x one, the P&F chart shows price changes on both axes.

The Point & Figure chart shows the price demand and supply. The X column indicates that the demand is exceeding the supply (bullish market) and the O column shows that the supply is exceeding the demand (the market is bearish); and a series of short columns indicates that demand and supply are relatively equal.

The P & F clearly identifies different figures (patterns) such as the Double Top and Double Bottom, Bullish and Bearish Formations, Ascending and Descending Symmetrical Triangles, Triple Top and Bottom, etc.



> Calculation

The Point & Figure chart displays an "X" in the "Box Size" (whose size is directly determined by the user) when the price rises, and displays an "O" when the price falls within the Box Size. It should be noted that no O and no X will be drawn if the price rises or falls by an amount lower than the value of the box size.

Each column can contain both an X and an O, but never simultaneously. To change columns (e.g. from an X to an O one), the price inversion must be equal to the product between the "Reversal Amount" (the user is the one who decides the value in this case also) and the box size. For example, if the size box has three points and the reversal amount is 2 boxes, then prices must reverse direction by 6 points (3 times 2) in order to change column. If you are on a X column, the price must fall by 6 points to move to the O column. If instead you are on an O column, the price must rise by 6 points to move to the X column.

The change of column identifies a change in the price trend. When a new X column appears, it means that the price is rising; a new O column, instead, indicates that the price is moving downwards.

The minimum number of X or O which can be displayed in a column is equal to the "Reversal Amount."

It is common practice to use the Maximum and Minimum prices (and not just the closing one) to decide whether prices have varied enough to display a new box.

> **Box Size**

The Box Size, which may be controlled via a specific menu, is the minimum price movement in order to add an X or an O above/below the current column.



> Reversal

The Reversal Amount of the chart is controlled by the scrollbar. As soon as the price makes a correction (in the opposite direction to the current trend) by a total amount greater than the Reversal Amount multiplied by the Box-Size, a new column is added to the right of the current column.



The traditional default value for the Reversal Amount is typically 2. By increasing the reversal amount you increase the compression of the chart as larger price movements are required in order to add new columns.

The larger the values of the Reversal, the greater the compression of the chart, the number of columns decreases and less significant trends are filtered (optimal settings for long-term trend analysis). Small Reversal values allow you to view minor trends (short-period analysis).

> Functionality

1. To draw Trendlines simply click and drag the mouse over the chart. Trendlines can be drawn horizontally or at 45 degrees. To delete a Trendline just select it with the mouse and press the 'Delete' button.

NOTE: should you change the BOX-Size or the Reversal-Amount, any Trendline will be cancelled.

2. Info Box

By moving the mouse over the columns, the labels will appear on the axes as regards the maximum and minimum price considered for that column and the starting and ending date of that column.



3. Number of the Month

When this feature is activated, the first box which represents the beginning of the month is replaced by a number or a letter, the letters 'A' - 'B' - 'C' are used for the months of October, November, and December; the numbers from 1 to 9 respectively represent the months from January to September.



4. Price Chart

Show / Hide the price chart: it displays the price chart corresponding to the period represented by the Point & Figure Chart:



The period NOT represented in the P & F is coloured in grey, while the rise in prices takes on the same colour as the (X) and the decrease the same colour as the (O).

5. Control of the historical data

The scrollbar allows you to select the number of days which the P & F chart must cover. The total number of days is displayed at the centre of the scrollbar; the selected period (start and end date) is displayed at the bottom left of the chart.

To increase or decrease the total number of days, select and drag the edge of the scroll bar with the mouse to the right or left whilst pressing the | --- sign.



To change the "window" of data coverage (while maintaining the time frame unchanged) select and drag the centre of the scroll bar from right to left with the mouse.

3.g. Time frame

From the drop down menu located at the top right, you can select the default period - intraday, daily, weekly, monthly - you want the chart to display.

You can view charts from a tick by tick time frame up to 30 years.

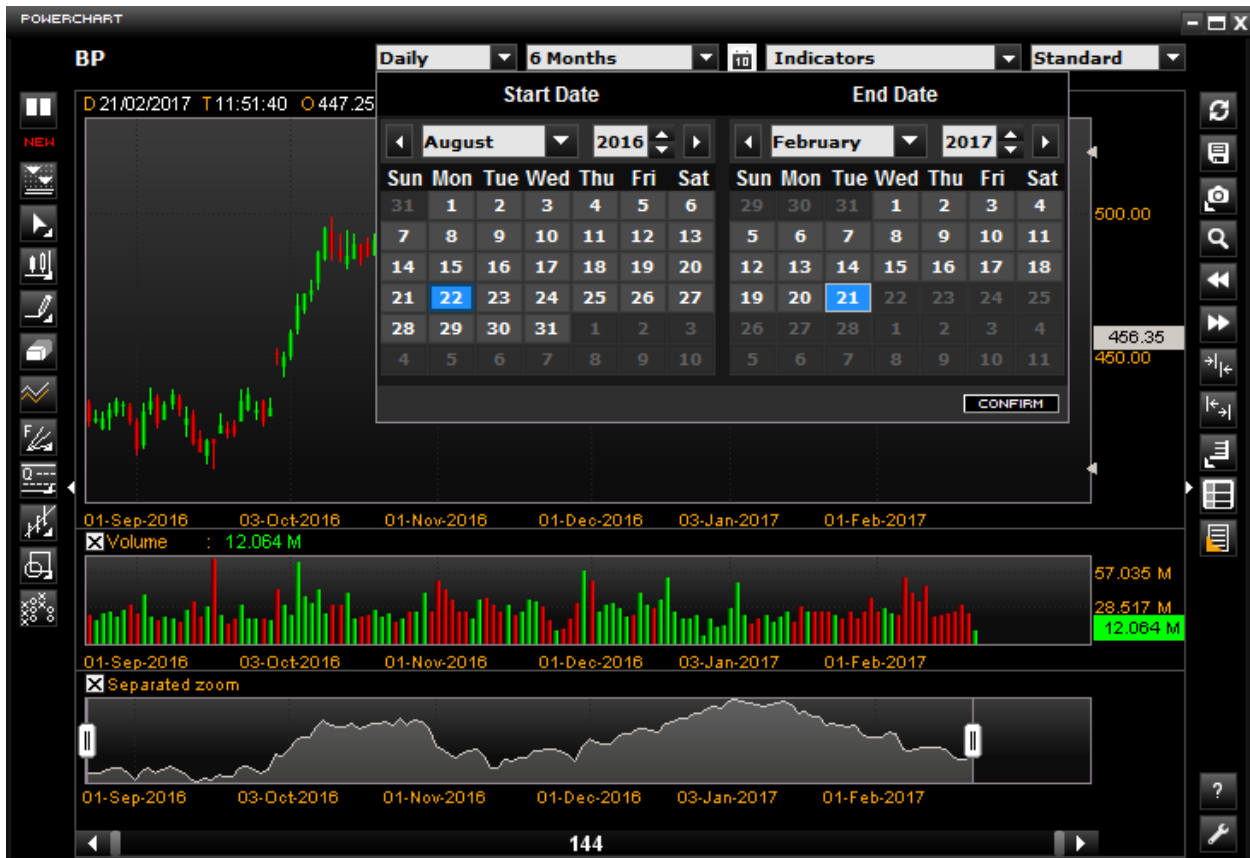
In the chosen time frame, you can select "(x) custom units". By clicking it you will add a new "select" between the "select" frequency and depth, with up/down arrows to select the number of candles you want to view.

Should you request a number of candles that goes beyond the available historical data, the maximum possible number of candles is shown.

Moreover, it is possible to select a more detailed period of the selected chart, with a calendar on which you can choose the desired period.



By clicking the icon a calendar will open which allows you to select the specific start and end dates of the chart.



4. Technical analysis indicators

1.c. Moving averages

A Moving Average is an indicator which shows the average value of the price of a financial instrument over a period of time. When calculating a moving average you are making a mathematical analysis of the average value of the financial instrument over a given period of time. When the financial instrument's price changes, its average price rises or falls.

There are several types of moving averages: simple (that is arithmetic), exponential, triangular and weighted. Moving Averages can be calculated on any data series, including open, high, low, close, volume, or any other indicator. It is also possible to calculate a moving average of another moving average.

The only significant difference between the various types of moving averages is the weight assigned to the most recent data. The simple moving average gives equal value to the prices. Exponential and weighted averages attribute greater weight to more recent data. Triangular averages give greater weight to prices at the centre of the chosen period.

The most popular method of interpreting a moving average is to compare the relationship between the moving average of a financial instrument price with the price of the financial instrument itself. A buy signal occurs when the financial instrument's price rises above its moving average and a sell signal occurs when the price falls below its moving average.

The critical element in calculating a moving average, is the number of time frames over which it is calculated. With hindsight you can always find a moving average which would have been advantageous, but the right key is to find a moving average which is systematically profitable.

The length of a moving average should fit the market cycle you wish to follow.

You can convert a daily moving average into a weekly one by dividing the number of days by 5 (e.g. A 200-day moving average is almost identical to a 40-day one). To convert a daily moving average into a monthly one, divide the number of days by 21 (e.g. a 200-day moving average is very similar to a 9-month one as there are approximately 21 trading days in a month).

Moving averages can be calculated and drawn on the indicators. The interpretation of a moving average of an indicator is similar to the interpretation of a moving average for a financial instrument: when the indicator rises above its moving average, it means there is a continuous upward movement; when the indicator falls below the moving average, it means there is a constant downward movement.

The indicators which are particularly suitable for using the moving average penetration systems are: MACD, ROC, Momentum, and Stochastic.

Some indicators such as the short-term stochastic, fluctuate so irregularly that it is difficult to identify their real trend. By erasing the indicator and then drawing the indicator's moving average, you can see the general trend of the indicator rather than its daily fluctuations.

It is possible to reduce false signals, at the expense of slightly delayed signals, by calculating a short-term moving average (e.g. 2-10 days) on oscillating indicators such as the 12-day ROC, the Stochastic or the RSI. For example, rather than selling when the Stochastic Oscillator falls below 80, you could sell when a 5-period moving average of the Stochastic Oscillator falls below 80.

Although the moving average does not accurately detect the maximum and the minimum prices, it provides a good indication of their direction.

EMA (Exponential Moving Averages)

It is an evolution of the weighted average, where the increased emphasis to be given to recent data is obtained by taking into account all the elements of the series but with an exponentially decreasing weight. The weights correspond to the progression: 1, a , $a(\exp 2)$, $a(\exp 3)$, ..., $a(\exp n-1)$, where " a " is a coefficient between 0 and 1. Thus, the weight of the first data of the series will be lower as time passes, until it becomes infinitesimal, but still a part of the calculation. The concept underlying the construction of the exponential average is probably more sophisticated and rational, but that does not mean that this type of media is necessarily more effective in its practical application.

An exponential moving average (or an exponentially weighted one) is calculated by applying a percentage of today's closing price to the value of yesterday's moving average. Exponential moving averages give greater weight to recent prices.

For example, to calculate a 9% exponential moving average of ALLEANZA, you have to take today's closing price and multiply it by 9%. Then, you must add this product to yesterday's moving average multiplied by 91% ($100\% - 9\% = 91\%$).

As most investors prefer to work with time periods rather than with percentages, the exponential percentage can be converted into an approximate number of days. For example, a 9% exponential moving average is equal to an exponential moving average of 21.2 periods of time (rounded to 21).

SMA (Simple Moving Average)

A moving average is a price average calculated for a given period of time. For example, a 30-bar moving average includes the last thirty measurements of the value of an asset in the calculation. The following day, the moving average replaces the bar at the top of the latest series (which is now the thirty-first day) with the most recent bar, in order to calculate the moving average of the current bar.

A simple or arithmetic moving average is calculated by adding the closing price of the financial instrument for a set number of periods (e.g. 12 days) and then by dividing the total by the number of periods. The result is the average price of the financial instrument in the period under consideration. Simple moving averages give equal weight to each daily price.

For example, to calculate a 21-day moving average of ALLEANZA, first of all, you must add up the closing prices of ALLEANZA in the last 21 days. Then, you have to divide the sum by 21; this would give you the average price of ALLEANZA of the previous 21 days. Now you can trace the average price on the chart. You should do the same calculation tomorrow: add up the closing prices of the previous 21 days, divide by 21, and draw the results on the chart.

Adaptive Moving Average

One of the problems encountered in the use of moving averages concerns the choice of the period to be used; while the faster moving average may be more effective in a market with little movement, a slower one will be preferable in a market with a clearly defined trend.

To overcome this problem Perry Kaufman created a moving average which, by using a study base on the market's volatility, adapts its speed. The calculations and the theory on which this type of moving average is based on are not easy to learn and they rely on fairly advanced statistics and mathematics concepts. An efficiency ratio has also been created, which compares the price movements with the level of volatility.

When the efficiency ratio is high, the movement is greater than the volatility, favouring the faster average; when it is low, the volatility is greater than the movement, which leads to a slower moving average. By incorporating the efficiency ratio there is an automatic adjustment of the adaptive moving average to the most appropriate speed for the current market.

Envelope Moving average

It consists of two moving averages. One moving average is towards the top and the second one is lower down.

The Envelope defines the upper and lower trading range levels of a financial instrument. When the financial instrument reaches the upper price range it generates a sell signal, while you have a buy signal when the lower level is reached. The optimal percentage moves according to the volatility of the financial instrument - the higher the volatility, the wider the percentage. The logic behind the envelope is that very zealous buyers and sellers push prices to extremes (e.g. upper and lower price range levels). Once they have reached these points, the prices often stabilise, moving to more realistic levels. This is similar to the interpretation of the Bollinger Bands.

Triangular Moving Average

Triangular moving averages give greater weight to prices at the centre of the chosen period. The periods used in the simple moving average vary according to whether you specify any time period or a specific number.

The following sections explain how to calculate a 12-period triangular moving average: Add 1 to the number of periods in the moving average (e.g. 12 plus 1 equals 13).

Divide the sum at point 1 by 2 (e.g. 13 divided by 2 is equal to 6.5).

If the result of step 2 is a decimal number, round up the result (e.g. round up 6.5 to 7). Using the value of point 3 (e.g. 7), calculate a simple moving average of the closing prices (e.g. a 7-period simple moving average).

Once again using the value of point 3 (e.g. 7), calculate a simple moving average of the moving average calculated in step 4 (e.g. a moving average of a moving average).

Weighted Moving Average

Weighted Moving Averages (WMA) have been designed to address the problem of simple moving averages in relation to the weight to be assigned to the values taken into consideration. A weighted moving average gives more weight to recent data and less to past data. A weighted moving average is calculated by multiplying each datum of the previous day by a weight. The following table shows the calculation of a 5-day weighted average.

5-day Weighted Moving Average

Day Weight Price Average

$$1 \ 1 \ * \ 25.00 = 25$$

$$2 \ 2 \ * \ 26.00 = 52$$

$$3 \ 3 \ * \ 28.00 = 84$$

$$4 \ 4 \ * \ 25.00 = 100$$

$$5 \ 5 \ * \ 29.00 = 145$$

$$\text{Total } 15 \ * \ 133.00 = 406/15 = 27,067$$

The weight is based on a certain number of days in the moving average. In the above example, the weight of the first day is 1.0 while the value of the most recent day is 5.0. This gives today's price a weight 5 times greater than the price of 5 days ago.

HMA

Implementing the Hull Moving average, which aims to be more reactive to the movements of financial instruments' prices compared with simple moving averages, while still maintaining a smoother performance.

MMA

Modified Moving Average by Joe Sharp, i.e. a modified version of the moving average, who created a smoother version without losing responsiveness to price movements.

4.a. Oscillators

ADX

It determines the presence of any market trends and measures their intensity. Low ADX values identify a market without a specific trend and with low volatility. The indicator is also useful for calculating possible intensity decreases of current trends.

Directional Movement.

It determines whether a financial instrument is in a "directional" phase and was developed by Welles Wilder. The Directional Movement compares the 14-day +DI ("Directional Indicator") and the 14-day -DI. This can be done by drawing the two indicators, one over the other, or by subtracting the + DI from the -DI. Wilder suggests buying when the +DI rises above the -DI and selling when the +DI falls below the -DI. Wilder defines these simple trading rules as the "extreme point rule". This rule was designed to prevent false signals and reduce the number of purchase/sale transactions. According to the extreme point rule, on the day that the +DI and -DI cross, you can see the "extreme point". When? when the + DI rises above the -DI,

the extreme price is the highest price of the day when the lines intersect. When the + DI falls below the -DI, the extreme point is the minimum price of the day when the lines meet.

The extreme point, therefore, is used as a buy/sell signal. For example, after identifying a buy signal (the +DI rose above the -DI), you might wait until the financial instrument's price rises above the extreme point (the maximum price on the day the + DI and -DI cross) before buying. If the price goes down first and then rises above the extreme point, you could continue to maintain a short position.

KCD

It can be considered a new version of the MACD: while the KCD indicator is based on mathematical calculations which are much more complex than those of the MACD, its graphical representation looks virtually identical.

The main difference between the MACD and the KCD is that the latter provides much more reliable divergence signals avoiding those false differences which the MACD tends to give. It is also much more stable around the zero line. When the MACD is near zero it tends to generate shapeless and irregular histogram lines, while the KaseCD generates clearer and more rounded formations.

This provides better results as the functions on which the indicator is based, automatically seek the most significant trend duration, adapting to the market cycle in order to provide a more thorough assessment of its conduct. This indicator is not only statistically reliable, but it is also adaptive in the sense that it chooses the most significant cycle duration among the range of past durations in order to adjust its trend parameter.

KCD is the difference between the Peak Oscillator and the Peak Oscillator average.

$KCD = \text{Peak Oscillator} - \text{Average}(\text{Peak Oscillator}, n)$

Peak Oscillator

It uses the KSDI as a measure of trends instead of a moving average and is calculated as follows:

$KSDI_{up} = \text{Log}(\text{Maximum}[0]/\text{Minimum}[n])/\sqrt[n]{n}$ $KSDI_{down} = \text{Log}(\text{Maximum}[n]/\text{Minimum}[0])/\sqrt[n]{n}$

Using this indicator provides a number of advantages compared with traditional momentum indicators such as the Stochastic. The Stochastic is locally normalised (price activity in the short run), therefore it is not possible to compare the value of the stochastic in a highly volatile market with the value of a stochastic in a quiet market. Similarly, you cannot compare a 5-minute Stochastic with a 60-minute one.

The Peak Oscillator is normalised on the range of prices and therefore on the volatility (the range is proportional to the volatility): thus, it is possible to obtain a universal indicator which measures the momentum relating to the volatility and which allows the comparison between markets and between different temporal compressions.

A second advantage is simply a higher degree of reliability of the momentum divergences. With traditional divergence there is a difference in the direction of price and of momentum which is commonly referred to as the "absolute maximum price and lowest minimum of the momentum, or to an absolute minimum price and the highest minimum of momentum". The Peak Oscillator does not only generate a divergence where traditional indicators do not, but it also has another advantage: from time to time the market is in a spike situation where there is no possible divergence signal. In order to have a divergence, it is necessary to have two maxima and two minima. In a Spike

Formation, where there is only one maximum and a minimum, indicators such as the Stochastic oscillator and the RSI are unable to identify any market changes.

The Peak Oscillator, by generating a Peak Out signal, not only warns of the imminence of a difference of a subsequent maximum or minimum, but that the market may suddenly reverse.

Money Flow Index ("MFI")

It is a momentum indicator which measures the strength of the incoming and outgoing cash flow of a financial instrument. It is linked to the Relative Strength Index: the RSI only incorporates prices, while the Money Flow Index also takes volumes into account.

Looking for divergences between the indicator and the share price, if the price trends higher and the MFI trends downwards (or vice versa), a reversal may be imminent. Search of a market maximum when the MFI is above the level of 80 or of a market minimum when the MFI is below 20.

POS (Price Oscillator)

An indicator calculated by using a fast and a slow moving average, consequently by tracing the difference between these two values. One analysis method of moving averages is that of studying the relative position of the two means: the faster moving average above the slower moving average determines a positive value of the price oscillator, providing a very bullish signal; vice versa, the faster average under the slow one, generates a negative value, providing a bearish signal.

RSI - Relative Strength Indicator

It was introduced for the first time by Welles; the name "Relative Strength Index" is slightly misleading as the RSI does not compare the relative strength of two financial instruments, but rather the internal strength of a single financial instrument. A more appropriate name might be "Internal Strength Index". The relative strength charts compare two market indices, and are often referred to as Comparative Relative Strength.

When Wilder introduced the RSI, he recommended using a 14-day RSI. Since then, 9 and 25-day RSIs have become increasingly popular. As you can change the number of time periods in the RSI calculation, it is recommended that each investor should find the time span which works best for him (the lower the number of days used, the more volatile the indicator).

RSI is a price-following oscillator which moves within a range between 0 and 100. A popular method of RSI analysis is to look for a divergence where the financial instrument is touching a new high, but fails to go beyond its previous high. This divergence is an indication of an impending reversal. When the RSI turns around and falls below its most recent low, it is said to have completed a "failure swing". The failure swing is considered a confirmation of an impending reversal.

In his book, Wilder discusses 5 methods for using the RSI:

Maximums and minimums. The RSI usually reaches maximums above 70 and minimums under 30 and does so before the underlying price chart does. Chart configurations. The RSI often forms shapes such as a head and shoulders or triangles which may or may not be visible on the price chart.

Failure Swings (also known as penetration or rupture of a support or resistance): this occurs when the RSI moves beyond a previous high or falls below a recent low.

Support and Resistance. The RSI shows, sometimes more clearly than price, the support and resistance levels.

Divergences occur when the price reaches a new high (or low) which is not confirmed by a new high (or low) in the RSI. Prices usually correct automatically and move in the direction of the RSI.

Stochastic oscillator

It compares the closing price of the financial instrument with the range of prices in the time span considered. The Stochastic Oscillator is represented by two lines. The main line is called "%K". The second line is called "%D" and is a moving average of %K. The %K line is usually represented with a solid line and the %D line with a dashed or dotted line.

There are several ways to interpret a Stochastic Oscillator. The three most popular methods are:

Buy when the Oscillator (either %K or %D) falls below a specific level (e.g. 20) and then rises above that level. Sell when the Oscillator rises above a specific level (e.g. 80) and then falls below that level. Buy when the %K line rises above the %D line and sell when the %K line falls below the %D line. Look for divergences. For example, when the price marks a series of new highs and the Stochastic Oscillator fails to surpass its previous highs. Example: You have a buy signal when the %K line falls below and when it rises above the level of 20. Similarly, you have a sell signal when the %K line rises above and then falls below the level of 80.

The Stochastic Oscillator moves within a range between 0% and 100%. A reading of 0% shows that the closing of the financial instrument was the minimum price that the financial instrument reached during the previous x-periods. A reading of 100% shows that the closing of the financial instrument was the maximum price which the financial instrument reached in the previous x-periods.

WILLIAM'S % R

Momentum indicator that measures the levels of overbought/oversold. William's % R was developed by Larry Williams. The interpretation of William's %R is far more similar to the Stochastic Oscillator except that %R is plotted upside down and the Stochastic Oscillator has an internal damping factor. To represent William's %R indicator on an inverted scale, it is usual to multiply it by a negative value (e.g. -20). For the purposes of analysis, negative values are ignored. If the financial instrument is in a range between 80 and 100% then it is oversold, while if it is located within the range between 0 and 20% it is overbought. As with all overbought/oversold indicators, it is best to wait for the financial instrument's price to change direction before trading. For example, if an overbought / oversold indicator (such as the Stochastic Oscillator or the William's % R) is in an overbought condition, it is wise to wait until the price of the financial instrument moves directly down before selling it. (The MACD is a good indicator to monitor changes in the price of a financial instrument). It is not unusual for overbought / oversold indicators to remain for a long time in an overbought/oversold state when the financial instrument's price continues to climb/descend. Selling simply because the financial instrument appears overbought may make you close the position long before its price gives signs of impairment.

An interesting phenomenon regarding the %R is its considerable ability to anticipate price reversals of the underlying financial instrument. The indicator almost always reaches a maximum and then falls.

Likewise, the %R usually reaches a minimum point and turns around a few days before the financial instrument's price rises.

Cycle Measure

An oscillator invented by John Ehlers for measuring the period of a financial instrument.

Ekam

An oscillator which indicates the distance between the price and a moving average, measured in relation to the standard deviation. The distance is divided by "3" and multiplied by "245". Since 99% of the values falls within "3" standard deviations, the chart tends to oscillate between +245 and -245.

This oscillator is therefore similar to the CCI, from which it differs for the reduced tendency to generate spikes.

Ergodic

An indicator created by William Blau, aimed at setting out the momentum of a financial instrument, filtering false signals as much as possible.

Phase Oscillator

This indicator created by John Ehlers, displays the "phase" of a financial instrument. A full discussion is presented in the November 1996 issue of Stocks & Commodities magazine.

Reverse Engineering OSC

An oscillator that clearly identifies the short-term overbought and oversold levels.

R – Squared

This oscillator is the result in code of the indicator described by Jon Andersen in the article "Standard Error Bands", published in September 1996 in Stocks & Commodities. The higher the indicator-s value, the greater the likelihood that the market is in a trending phase.

Saitta Trend

An indicator whose value has a tendency to grow during trend phases, and to wane during congestion phases.

Signal to Noise

Signal to Noise is the quality indicator of the trend, described by John Ehlers in the book "Rocket Science for Traders".

Sine

John Ehlers' Sine Wave indicator draws two lines which self-adapt to the oscillation frequency of the financial instrument, and can be used as intersection points of moving averages, in order to determine the market trend phases.

SMI Oscillator

The Oscillator invented by William Blau to highlight the trend of a financial instrument, purged from long-term movements. If the indicator rises, it is presumably appropriate to open bullish positions, and vice versa.

TA Stochastic

This is a "momentum crossover" system with a filter similar to the stochastic one. The two horizontal lines indicate the overbought and oversold levels.

Trend Area

This indicator seeks to highlight market phases through a complete reading of the trend phases. The integral part corresponds to the subtended area of a chart and in this case it is reset when the trend reverses.

Trix

This oscillator was discussed in the June 1997 edition of Stock & Commodities. Basically it is a momentum indicator, which provides operating signals linked to the crossing of the horizontal line of the "zero".

When the TRIX (red line) crosses its moving average (blue line) from below, it can trigger a buy signal.

Conversely, when the TRIX (red line) crosses its moving average (blue line) from above, it can trigger a sell signal.

The TRIX is an indicator which supplies interesting signals in a trend market.

Chande's Mid Point Oscillator

This is an overbought / oversold indicator.

The oscillator is normalised and ranges on a scale between 100 to -100, with the overbought line equal to +70 and the oversold line equal to -70.

However, for a more detailed analysis, it is preferable to wait for a change in the price direction which can be revealed, for example, by the MACD, before you buy or sell.

The oscillator's formula is as follows:

$\%M = 100 * (C - \text{Midpoint of range}) / \text{Half the range}$, where:

C = current close

Midpoint of range = $(\text{highest high of the period} + \text{lowest low of the period}) / 2$

Half the range = $(\text{Highest high of the period} - \text{Lowest low of the period}) / 2$

Chande's momentum oscillator

A pure momentum oscillator. This indicator is range bounded between -100 and +100. The security is deemed to be overbought when it is on the threshold of +70, and conversely, when the indicator is on the threshold of -70, it is oversold. The market momentum is indicated with a continuous line at 0.

You have a bullish divergence when the price makes a new low while the indicator remains below its previous low.

You get a bearish divergence when the price makes a new high and the indicator remains below its previous high.

Chaikin Money flow

This indicator is used to calculate the sellers' and buyers' pressure on the basis of the closure position compared with the maximum and the minimum. The net market must be indicated by a solid line at level 0.

When the money flow remains largely above 0, it indicates a buying pressure and vice versa. This indicator can be used starting from the divergences.

A bearish reversal may flash when a bearish divergence appears. It is obtained when the price curve reaches a new high, while the indicator remains below its previous highest point.

A bullish reversal may take place when a bullish divergence appears. This is obtained when the price curve makes a new low point, while the indicator remains above its previous lowest point.

4c. Separate indicators

Volume

It is simply the number of shares (or contracts) traded during a specific time span (e.g., hour, day, week, month, etc.). The analysis of the volume is a very important element of technical analysis and provides an indication of the intensity of a given price movement.

Low Volume levels are characteristic of indecisive expectations which typically occur during consolidation periods (e.g. periods where prices move sideways within a trading range). Reduced volumes often occur during periods of indecision such as market minimums.

High Volume levels characterise market highs where there is a strong consensus that the price will go even higher. High volumes are also very common at the beginning of a new trend (e.g. when the prices come out of a trading range). Just before the market's minimum, the Volume will often grow due to panic selling. Volume can help you determine the strength of a current trend. A strong upward trend has higher volumes on the ascending portion of the trend and lower volumes on the downward portion (corrective). A strong downtrend usually has higher volumes on the descending portion of the trend and lower volumes on the ascending portion (corrective).

MACD

It stands for Moving Average Convergent / Divergent and is a trend following momentum indicator that shows the relationship between two price moving averages.

The MACD, developed by Gerald Appel, is the difference between an exponential 26-day and a 12-day moving average. A 9-day exponential moving average, called the "signal" (or "trigger") line is drawn on top of the MACD to represent the buy/sell opportunities. MACD is most effective in markets with large oscillatory movements and it can be used in 3 ways: crossover, as an overbought/oversold level, and divergences.

Crossover

The basic rule of the MACD is to sell when the MACD falls below its signal line. Similarly, a buy signal occurs when the MACD rises above its signal line. You can also buy / sell when the MACD goes above / below zero.

Overbought/oversold level

The MACD is also useful as an overbought / oversold indicator. If the shorter moving average pulls away strongly from the longer moving average (i.e., the MACD rises), it is likely that the price of the financial

instrument is overbought and will soon return to more realistic levels. The MACD which identifies the levels of overbought / oversold varies from one financial instrument to another

Divergences

A bearish divergence occurs when the MACD lows are rising while the price lows are going down. A bullish divergence occurs when the MACD highs are rising while prices are falling. Both these divergences are most significant when they occur in relation to overbought/oversold levels.

You have a buy signal when the MACD exceeds its signal line and a sell signal when the MACD falls below its signal line.

The MACD is calculated by subtracting the value of the exponential 26-day moving average from the 12-day exponential moving average.

A 9-day exponential moving average is then drawn on the MACD. The difference between the MACD and the - MACD Line is represented by a histogram.

MA Spread

It is an indicator of the spread between 2 moving averages, expressed as a percentage in relation to the maximum spread which occurred during a predetermined data period. When the spread is lower than -90 or greater than +90, it turns blue to indicate the possibility of a correction.

Average True Range.

It measures volatility and was introduced by Welles Wilder. Wilder found that you have high ATR values when the market falls following a sales "panic". Low Average True Range values occur during prolonged sideways periods, such as those found in market tops or after consolidation periods. The Average True Range can be interpreted by using the same techniques used with other volatility indicators.

%BB (Percentual Bollinger Bands)

It compares the price of the instrument with the width of the Bollinger band. The calculation method is similar to that of the Stochastic. Values near the lower zone are classified as oversold, conversely the opposite.

Volatility

Volatility represents the degree of change in prices of a financial asset over a given period of time. High volatility values indicate a greater degree of variability in the average investment return and therefore, from a forecasting point of view, a greater uncertainty about its outcome.

T&M Volatility

It is a volatility indicator conceived by Stuart Belknap and described in the May 2003 edition of Stock & Commodities.

Volatility Quality

The "Volatility Quality Index" was devised by Thomas Stridsman and is used to identify the best trading opportunities distinguishing between good and bad volatility. The higher its value, the better the quality.

ROC (Rate of Change)

It calculates the percentage change between the closing of each bar and the closing of the previous bars. The ratio between current prices and previous prices, leads to greater clarity on the strength of the trend and possible trend reversals.

The indicator can also be helpful in identifying oversold and overbought conditions when heightened variations occur.

Momentum

It measures the change in price of a financial instrument over a given time span.

The interpretation of the Momentum is identical to that of the ROC. Both indicators measure the change rate of the financial instrument's price. However, the ROC shows the rate of variation as a percentage, whilst the Momentum as a ratio.

The Momentum can be used as a trend-following oscillator: you have a buy signal when the indicator touches a minimum and turns upwards and a sell signal when the indicator reaches a maximum and turns downwards. If the Momentum reaches extremely high or low values (in relation to its historical values), you should assume that the current trend will continue. For example, if the Momentum reaches extremely high or low values and then turns downwards, you should assume that prices will continue to rise. In both cases, it is better to trade only after the prices confirm the signal generated by the indicator.

The Momentum can also be used as the main indicator. This method envisages that market highs should typically be identified by a rapid rise in prices (when everyone expects prices to continue to rise) and that market lows should end with a rapid fall in prices (when everyone wants to get out). This is often the case, but it is also a big generalisation.

When the market reaches its maximum, the Momentum indicator will climb sharply and then fall diverging from the upward or oblique price movement. Similarly, when the market is at a minimum, the Momentum will drop sharply and then begin to rise. Both these situations result in a divergence between the indicator and the prices.

Bull and Bear

It highlights the upward and downward forces on the market.

Instant trend

An indicator based on two non-linear Ehlers filters, calibrated on two different time frames (short and medium term). It gives you similar information to that based on the intersection of two moving averages, but with less sensitivity to spurious movements in the market.

MFI Conv/Div

This oscillator is an average of the Money Flow Index MACD. The red line represents the signal, which is bullish when it becomes positive, and bearish when it goes down below zero. The blue line represents the difference between the Money Flow Index MACD and its moving average.

RMI Indicator

It is a smoother version of the RSI (Relative Strength Index).

RVI (Relative Vigor Index)

This technical analysis indicator of Relative Vigour Index (RVI) was introduced in 2002 in an article entitled "Something Old, Something New - Relative Vigour Index (RVI)" by John Ehlers. The indicator can be used in a similar way at the intersection of two moving averages, to determine the market trend phases.

True Strength

This indicator was designed to highlight the strength of a financial instrument, eliminating any of its spurious movements. Should the trend indicator rise then it is positive and vice versa when its value falls.

On Balance Volume ("OBV")

It was developed by Joe Granville and is a momentum indicator which correlates volume and price change.

The On Balance Volume indicator is the cumulative sum of the volume. It shows if the volume is flowing or if it is leaving the financial instrument. When the financial instrument closes higher than the previous close, the whole volume of the day is considered a growing volume. When the financial instrument closes lower than the previous day, the whole volume of the day is considered a decreasing volume.

OBV's basic assumption is that OBV changes anticipate price changes. The theory is that strong investors enter (accumulation phase) or leave (distribution phase) from the market prior to the mass of investors. When investors converge on the financial instrument, both the financial instrument and the OBV take a leap forward.

If the movement in price of the financial instrument anticipates the OBV movement, there is a "non-confirmation". A "non-confirmation" can occur on the high of a bull market (when the financial instrument rises before the OBV or without the OBV rising) or on the low of a bear market (when the financial instrument falls without, or before the OBV).

The OBV trend increases when every new high is greater than the previous one and each new low is smaller than the previous one. Similarly, the trend is bearish when each next high is lower than the previous one and each next low is lower than the previous one. When the OBV is moving sideways and is not making any further highs and lows, the trend is uncertain. [See Figure below]

Once a trend has stabilised, it remains in place until it is broken. There are two ways in which the OBV may be broken: the first occurs when the trend changes from bullish to bearish or from bearish to bullish.

The second way is if the trend changes to an uncertain trend and remains as such for more than three days. Therefore, should the financial instrument change from a rising trend to an uncertain one and remain so for only two days before returning back to a bullish trend, the OBV's trend is considered to have always been a growing one.

When the OBV changes to a bullish or bearish trend, there has been a break. When the OBV undergoes a break, normally it precedes a price break, investors should open long positions on OBV breaks at the top. Likewise, investors should short sell when the OBV breaks in the lower part. The positions should be maintained until the trend changes (as explained above).

This method of OBV analysis is defined for short term trading cycles. According to Granville, investors should act quickly and decisively if they wish to benefit from the short-term analysis of the OBV.

Volume Average indicates the average value of the trades.

Volume Oscillator

It represents the difference between two exponential moving averages of the financial instrument's volume. The difference between the moving averages can be expressed both in terms of points and of percentages.

You can use the difference between two volume mobile averages in order to determine whether the overall volume trend is increasing or decreasing. When the Volume Oscillator grows above zero, it means that the moving average of the short term volume is positioned above the long term moving average, therefore the short term trend volume is set upwards more than the long one.

There are different ways to interpret changes in volume trends. A common belief is that when you have bullish prices with an increasing volume and bearish prices with a declining volume, the market is bullish. Conversely, if the volume increases when prices fall, and decreases when prices rise, the market is showing signs of weakness. The underlying theory is as follows. Rising prices associated with rising volumes indicate a growing participation of buyers (more buyers) which could lead to a continuation of the movement taking place. On the contrary, decreasing prices with increases in volume (more sellers) means buyers are diminishing.

Commodity Channel Index

It measures the change in price of the financial instrument from its statistical average. High values show that prices are unusually high when compared with average prices, whereas low values indicate that prices are unusually low. Unlike its name, the CCI can be used on any type of financial instrument, and not only on commodities. The CCI was developed by Donald Lambert.

There are two methods of interpreting the CCI: in order to identify divergences (prices are reaching a new high while the CCI falls intersecting the prices of the security, this divergence is usually followed by a correction), and as an indicator of overbought/oversold (the CCI fluctuates around 100). You have signs of overbought above 100, imminent price correction, and oversold below -100, imminent rally.

Price Oscillator

The Price Oscillator expresses the difference between the price and its 50-day simple moving average. The indicator oscillates around the zero line, which represents the moment of intersection between the price and the moving average.

In the chart, there are two horizontal dashed parallel lines indicated which detect levels outside of which, historically, there have been the situations of excess (upper zone or overbought and lower zone or oversold).

Divergent trends from price ones, particularly if the Price Oscillator is positioned in the excess area, anticipate trend reversals.

Bandwidth

An indicator directly derived from the Bollinger Bands, which measures their amplitude, with the goal of identifying volatility cycles and particular compression situations which could give rise to trend explosions.

The constructive formula is as follows: $(\text{Upper Band} - \text{Lower Band}) / \text{Middle Band}$

Chande's Aroon indicator

The Aroon indicator was developed by Tushar Chande; "Aroon" is a Sanskrit word meaning "first light", i.e. threshold, the moment of transition between night and day. The objective of this indicator is to identify the moment of transition from a sideways stage of the market to a trend stage and vice versa.

Usually indicators - and in particular oscillators - measure the behaviour of price in relation to time, as occurs for example in the case of the Rate of Change (ROC). The Aroon indicator, instead, works exactly in the opposite way, measuring the passage of time in relation to a certain price level. The objective of this indicator is to identify the moment of transition from a sideways stage of the market to a trend stage and vice versa

Chaikin's Volatility

Chaikin's Volatility is obtained by calculating the exponential moving average of the difference between the high and the low of the day, and calculating the variation percentage of this moving average. The parameters are the number of days taken into consideration in order to calculate the moving average and the rate of change.

Chaikin's Volatility compares the spread between the highest and the lowest price of a security. A high volatility indicates the maturity of a peak and a low volatility represents a basic level.

4d. Overlapping indicators

Bollinger Bands

Similar to the envelope mobile averages. The difference between Bollinger Bands and envelopes is that the latter are drawn above and below the moving average of a fixed percentage, while the Bollinger Bands are drawn above and below the moving average based on the standard deviation level. Since standard deviation is a volatility measurement, the bands have become self-adaptive: the amplitude increases during very volatile market phases and contracts during periods of contained price variations. Bollinger Bands are usually drawn on the price of the financial instrument, but they can also be drawn on an indicator. The comments below refer to bands positioned on prices.

As for envelopes, the basic interpretation of Bollinger Bands is that prices are positioned between the upper and lower band. The distinctive characteristic of Bollinger Bands is that the spaces between one band and another vary in relation to price volatility. During periods of extremely variable prices (e.g. high volatility), the bands widen. During periods of depressed prices (e.g. low volatility), the bands contract to contain prices. Mr. Bollinger identified the following characteristics of Bollinger Bands. Significant price variations are observed after the Bands contract because volatility decreases. When prices move outside the band, the continuation of the current trend is implied. Highs and lows registered outside the bands followed by highs and lows within the bands indicate a trend reversal. A movement that begins with a band and goes up to the other band is useful to identify target prices.

Bollinger Bands are drawn as three bands. The middle band is a simple moving average. In the following formula, "n" is the number of time frames (e.g. 20 days) on which the moving average is calculated.

The upper band is similar to the middle band, but the number of the standard deviation is added. In the next formula, "D" is the number of the standard deviation.

The lower band is obtained by subtracting the same number of the standard deviation from the moving average.

Bollinger recommends using "20" for the number of time frames of the moving average, to calculate the moving average using the "easy" method and to use 2 for the number of the standard deviation. Bollinger also found out that the calculation of a 10-period moving average is not very effective.

Parabolic SAR

The parabolic time/price system, developed by Welles Wilder, is used to identify trailing stops and is called "SAR" (stop-and-reversal).

The Parabolic SAR provides excellent exit points from the market. Long positions could be closed when the price falls below the SAR, and short positions closed when the price rises above the SAR.

In case of a long position (e.g. the price is above the SAR), the SAR will grow every day, regardless of the price's direction. The amount of the increasing SAR depends on the amount of the price.

A long position should be adopted when the SAR is below the price and a short position when it is above the price.

The concept is inspired by the idea that time is the enemy, and unless trading continues to generate profits over time, it should be liquidated. Consequently, the Time/Parabolic Price strategy drives the trend until the SAR level is penetrated. Then the current position must be closed and a reverse position must be opened (the Stop And Reverse name derives from this concept).

The expression "Parabolic" derives from the shape of the curve that the stops create when trading signs appear on the chart. To calculate the function, you must first find an extreme reversal point. On long positions, this price is usually the lowest recorded during the previous short position which was closed. On a short position, the extreme price is usually the highest recorded during the previous long position which was closed. In practice, there will be no point of extreme inversion for the first transaction when there were no previous transactions. To give an explanation to this, the function uses the high and low of the previous bar (depending on whether the position is long or short) before the first operation. For long-term sales and short-term purchases, from the second day onwards, the SAR is adjusted as follows:

$$\text{SAR}_b = \text{SAR}_p + \text{AF}(\text{H} - \text{SAR}_p)$$

$$\text{SAR}_s = \text{SAR}_p + \text{AF}(\text{L} - \text{SAR}_p)$$

where

SARb is the stop price of a long position at which one sells and a short one is opened.

SARs is the buy stop of a short position where you close the short position and open a long one.

SARp is the SAR of the previous bar.

AF is an acceleration factor which begins from .02 for the next bar at the moment when the buy stop signals to open a long position; subsequently it is increased by .02 as the price reaches a new high (H) since the long position in place was opened.

If during the long operation the price does not record a new high, AF is left unchanged at the level of the previous period.

H is the new high from when the long position in place was opened following the buy stop indication

L is the new low from when the ongoing short position was opened following the sell stop indication.. The value provided by the parabolic function is the SAR value described above.

Keltner Channel

Keltner Channels are part of the same class as the Ralph Channel, the Standard Error Channel, the Bollinger Bands, the Standard Deviation Channel, the Envelope, etc.

Its formula is given by an exponential 39-period MA, to which two outer bands are added calculated on the volatility of the bars multiplied by 1.618 (important Fibonacci number). This is the option to build the channel represented here, since originally the parameters were different and used essentially for short-term trading. Over time, while attributing to this indicator the name of Keltner, several changes have been made to the original formula.

The idea of this indicator is to use the channel as a gauge of volatility, and every time that prices will move outside the channel, there is a good chance that they will fall into a trend. Rebounds of a technical nature often run out on one of the three containment bands, basically the first or the second one. Crossing the third band, after a long period, announces the reversal of the primary trend.

The instrument is mainly used for trend-following strategies, since the movement of prices out of the channel, upwards or downwards, creates the possibility that the market is beginning or continuing a well-defined trend movement.

Volatility Stops

This indicator seeks to identify the Stop & Reverse points on the basis on the volatility of the financial instrument. Its uses are quite similar to the common Parabolic SAR indicator.

Swing Wave

This indicator identifies Stop & Reverse levels, which can be used in a manner similar to those obtainable with the most classic Parabolic SAR.

Pivot Trading Levels

The Pivot Trading Levels are a series of horizontal lines which indicate the levels of support and resistance in the chart.

As in the Quadrant Lines, the Pivot levels help you identify potential levels of support and resistance based on a price range over a given period. You may acquire this visually from the chart.

IntraHL

The constructed channel identifies the maximum high and minimum low, within a given range of data.

RSI Pivot

An indicator which automatically calculates Pivot levels; it can be used to create "counter-trend" strategies.

Swing Trendline

This indicator seeks to track automatic running trendlines.

Vima

The Interval Variable Moving Average is a special version of moving averages designed by R. G. Boomer. In normal moving averages, the user must set the time range on which to perform the calculation. The VIMA are averages which tend to vary their reactivity on the basis of the movements of the financial instrument.

Alligator

The Alligator indicator is a tool used in technical analysis to interpret signals from different mobile averages.

The alligator is so named for its shape, in fact, it consists of three lines representing the parts of the alligator's mouth.

The first line, usually blue, is the alligator's jaw. It is calculated as a 13-period smoothed moving average. Furthermore, the line is shifted forwards by 8 bars (towards the future).

The second line, usually red, is the alligator teeth; it is the balancing line calculated as an 8-period smoothed moving average. Furthermore, the line is shifted forwards by 5 bars (towards the future).

The third line, usually green, represents the alligator's lips; it is the balancing line calculated as a 5-period smoothed moving average. Furthermore, the line is shifted forwards by 3 bars (towards the future).

When the lines are intertwined with each other, this means that the alligator is sleeping; the more it sleeps, the hungrier it will be when it wakes up.

When it wakes up, it is very hungry, so first it opens its mouth, its jaw and starts chasing the food (i.e. the price), until it eats it.

After having eaten plenty, the alligator loses interest in food, therefore the balancing lines come together.

This is a good time to take profit, close all open positions until the alligator does not wake up again.

Supertrend

The SuperTrend indicator was developed by Oliver Seban. This indicator has the great advantage of running on all time frames and on all supports. It can be used on shares, futures or forex, both with 5-minute and weekly timeframes. It is used in particular to accompany trends and optimise output.

The Supertrend evolves above or below the prices and is linked to the type of trend. It especially uses the closure of the day to filter out false signals which can appear during trendless periods. The Supertrend is calculated from a coefficient applied to the average volatility of the last candles (or bars according to the selected type of chart). Normally, the coefficients 3 and 10 are used as multiplier and the number of bars.

Identical to Wilder's SAR, the Supertrend follows prices as a stop (using calculations most suitable for volatility) with the difference that it does not change the values in trendless periods. This allows for more space and time for the price to enter the trend and discover the most important movements. In general, when the signal is interpreted as good then it is a bullish signal when the Supertrend is under the price and bearish when the Supertrend is higher than the price.

Donchian channels

They represent a very simple trend following breakout system for commodities and futures, and are successfully applied to stock analysis as well.

Donchian channels are constituted by two outer bands, upper and lower, and by an intermediate line, obtained as the average value of the two values constituting the outer bands.

The upper band of Donchian channels is constituted by the higher closing price recorded in the last 20 periods.

The lower band is built with the same logic but orientated to the lows; in fact it uses the closure (or the minimum) price with the lowest value recorded in the last 20 periods.

Because of their conformation, Donchian channels work well in trending markets, but not in sideways markets. The signals are the result of a few basic rules: when the price touches or exceeds the upper band of the channel it generates the buy signal; when the price touches or exceeds downwards the channel's lower band it generates the sell signal.

4.e. Advanced Studies

Momentun Inc. Dec.

Period (default = 5)

It specifies the length on which the indicator value is calculated.

Moving Averages Intersection Point

Short (default = 9)

It specifies the length on which the fast moving average is calculated.
Long (default = 18)

It specifies the length on which the slow moving average is calculated.

Reversal points

The indicator identifies the highs and lows of the cycle, and displays them by drawing blue or red dots.

The purpose of this study is to enable the user to identify the market cycles, to understand if they are tradable and see if your strategy is in sync with the timing of the instrument.

As the aim is to have reliable clues and not anticipate the market, reversal points are usually drawn with a delay of about one cycle compared to the last available bar.

The green circles instead provide more readily available information about possible reversal points, but must then be confirmed by subsequent price changes.

TPL: Volatility

A template consisting of a bar chart which includes the following indicators:

Overlapping indicators: Bollinger Bands

Separate indicators: Bollinger Percent, Average True Range

TPL: Volume

A template consisting of a volume candlestick chart which includes the following indicators:

Separate indicators: On-Balance Volume, Average Volumes

TPL: Momentum

A template consisting of a bar chart which includes the following indicators:

Overlapping indicators: Keltner Channel

Separate indicators: Slow Stochastic, Momentum

TPL: Trend

A template consisting of a candlestick chart which includes the following indicators:

Overlapping indicators: Envelope Moving Averages

Separate indicators: MACD, ADX

4.f. Other filters

Linear regression

An indicator based on the price trend of the financial instrument over a specific time span. The trend is determined by calculating the linear regression line with the least squares method. The least squares

technique makes the data in the chart correspond to a trendline by minimizing the distance between them (represented by dots), and the linear regression trendline.

Any point along the Linear Regression indicator is equal to the final value of the Linear Regression trendline.

For example, the final value of a 10-day Linear Regression trendline will have the same value of a 10-day Linear Regression indicator.

Distance Coefficient

It belongs to the category of Ehlers' non-linear filters. It is used, as the moving averages, to identify the trend of a financial instrument, filtering as much as possible price spikes, though introducing a time delay compared to the original layout.

Compared to moving averages, Ehlers' non-linear filter can filter out price spikes better, by introducing lower time delays.

IE2

Indicator similar to a moving average, created by Tim Tillson. It has an intermediate behaviour between the gradient integral of a regression line (ILRS) and the moving average of the end point (EPMA).

NLR

It uses a non-linear regression analysis to estimate a curve through a set of data. The use is similar to that of moving averages.

Nonlinear Filter

It identifies the trend of a financial instrument, filtering as much as possible price spikes, though introducing a time delay compared to the original layout.

Compared to moving averages, Ehlers' non-linear filter can filter out price spikes better, by introducing lower time delays.

Optimal Tracking

This indicator was created by John Ehlers, and is a moving average modified version, which was created with the aim of being more responsive to the price movements of the financial instrument, while maintaining a more rounded performance.

T3

This indicator created by Tim Tillson, is similar to a moving average, but it differs because it can smooth out the price trend by introducing a delay lower than that of Moving Averages.

Tether Line

This is a "momentum crossover" system with a filter similar to the stochastic one. The two horizontal lines indicate the overbought and oversold levels.

Zig Zag


The Zig Zag indicator calculates a broken line which swings between the highs and lows concerning a financial instrument. The indicator is useful as a support for tracking trendlines and critical price levels.

5. Chart trading

General description

Chart trading is the advanced system which allows you to enter, modify and cancel orders of all financial instruments, with a simple click of the right mouse button directly from the chart, in order to be able to follow market trends with the maximum speed and immediacy, while controlling directly on the chart both your orders and the movements of the instruments.



An icon has been added to the charts in the top left corner, , off by default, which allows you to view all orders placed and executed during the day and to place orders directly from the chart.

After activating the chart trading, all the other features of the chart remain active except for those activated with the right mouse button (e.g. changing the parameters of the elements of the chart, the size of the trend line, the candlestick colours, the graphic background, etc.) in fact you will use the right button to open your order entry window.

Therefore, to change the characteristics of the candlesticks or trend lines, if you have any on the chart, you will need to disable the chart trading button.

To support chart trading, a new cursor called "horizontal line" has been added in the icon in the top left where the cursors are selected; you can use it to light up the price of the security on the horizontal axis, thereby facilitating your order entry.

This cursor will be active by default at the chart trading's activation, but it may be modified or disabled at any time.

5.a. Entering an order

By placing the cursor on the chart, at any price and by clicking the right mouse button once, the order entry pop up will appear.




Should you click the right mouse button multiple times, a single order entry pop up will be displayed at a time.

The pop up, which replicates the Order entry, allows you to set the order, choosing between the different types of operations, the quantity (based on the settings saved in your favourites) and to choose the price. For the latter, in order to speed up sending the order, the price shown on the ordinate and highlighted by the cursor, will be the price of the order and it will be displayed by default in the pop up.

N.B.: Should the chosen price not correspond to a multiple of the minimum tick, the pop up will display the price adjusted to the security's minimum tick.

5.b. Order display

Once you have confirmed the order, the pop-up will disappear and a line and a label will appear on the chart with different colours according to the information provided by the market concerning the execution status of the order at that point in time. The colours of the horizontal lines and labels will keep the same logic of the Monitor Orders:

- green for Entered 
- blue for Executed 
- yellow for Partially Executed 

Furthermore, if the order has been executed, the straight line will be continuous, while it will be dashed in case of orders entered and executed partially.

N.B. for margin trading on futures and forex, Fineco's automatic Stop Loss will be displayed with a grey label, indicating the price, coupled with a continuous line.

Note: Cancelled, rejected, queued or to be queued orders will not be displayed on the chart.

The labels, besides indicating the status of the order, contain the identification data of the order with the specific instructions regarding the type of operation you have chosen.

For ordinary operation, the data displayed will be:

- Order entered:

A green dashed line will appear where you entered the price and in the green label there will also be the parameters of the order displayed:

- > **"ORD"**: indicates an ordinary type of operation
- > **"B/S"**: indicates whether the order is Buy or Sell.
- > **"ENT.Q"**: quantity entered in the order.
- > **"ENT.P"**: price entered in the order.
- > **"X"** key to cancel the order

The executed price may be different from the entered price, in this case once the order has been executed the line will move from the entered level to the executed one.

If the order is executed in several tranches at different prices, the blue line and the label will be placed on the average carrying value in the order screen.

- Executed Order

A blue continuous line will appear by the executed price, the parameters of the order will be indicated on the label:

- > **"ORD"**: indicates an ordinary type of operation
- > **"B/S"**: indicates whether the order is Buy or Sell.
- > **"EXE.Q"**: executed quantity of the order.
- > **"EXE.P"**: executed price of the order.

For executed orders, in addition to the horizontal line, a small arrow will appear to indicate the candlestick in which the order has been executed, so as to allow the customer to view both the price level, but also the estimated time. The arrow appears only in case of an order executed totally.

Green arrow pointing up -> buy Red arrow

pointing down -> sell

- Partially executed order:

In case of a partially executed order (PFILL), the dashed line will remain at the entered price, but it will become yellow.

On the left label you will see the remaining amount of securities entered which will certainly be lower than the initial amount you entered.

The dashed line will remain positioned on the price level entered until the order is executed totally (or deleted for the part already entered).

- > **"ORD"**: indicates an ordinary type of operation
- > **"B/S"**: indicates whether the order is Buy or Sell.
- > **"Q."** > **"ENT.P."**: amounts not yet executed of the order entered.
- > **"ENT.P"**: price entered in the order.
- > **"X"** key to cancel the part of the order not yet executed

Note: With chart trading you can neither set (nor view on the chart) any Stop loss, Take profit or trailing stop on the positions or individual orders which form them. Such orders can only be set from the order Screen, from the Order entry or PowerBook.

5.c. Cancelling an order

To cancel an order from the chart, the order's status must be entered or partially executed. The cancellation is done by clicking on the specific "X" button in the label of the order.

If the order is partially executed, clicking on the "X" button cancels only the non-executed part of the order.

5.d. Details of the order

SECURITY ORDER DETAILS	
User	44166410
Submission Date/Time	08/02/17 15:17:09
Execution Date/Time	-
Deletion Date/Time	-
Security	AMZN
Membership market	NASDAQ
Currency	USD
Buy/Sell	Buy
Qty input	4
Qty viewed	-
Order type	with price limit
Validity	-
Input price	815.0
Expiry date	08/02/17
Order Status	OPN
Qty executed	0
Average executed price	0.0
Negotiation proposal	O201702081617092609
Transaction code	70381617092603
<div>CLOSE PRINT</div>	

By clicking on the label, you can view the details of the order, which you can then print to keep.

5.e. Moving the order

With chart trading, you can move orders from one price level (limit price at which the order was entered) to a new price level.

To move the order entered, you must:

- position the mouse on the dotted line or on the label indicating the order entered
- click and hold down the left mouse button
- move the line onto the new desired price level
- release the left button

When you release the left mouse button, a pop up will appear that requires confirmation of the move to a new price level. By confirming, the label of the order entered will disappear and the new label will appear on the new price level. Simultaneously, the order screen will display the cancellation of the previously entered order and entry of the new order.

5.f. Futures and Forex

For futures and forex, the data displayed in the label are:

- Order entered:

- > "IN/OV": indicates if the margin trading is intraday or multiday
- > "B/S": indicates whether the order is Buy or Sell.

- > "ENT.Q.": amounts not yet executed of the order entered.
- > "ENT.P": price entered in the order.
- > "X" key to cancel the order

- Executed Order:

With margin trading, on the labels of all the orders which make up a position, there is a "C" key which allows you to close the position at any time.

- > "IN/OV": indicates if the margin trading is intraday or multiday
- > "B/S": indicates whether the order is Buy or Sell.
- > "EXE.Q": executed quantity of the order.
- > "EXE.P": executed price of the order.
- > "C" key for closing the position

- Partially executed order:

In the label of a partially executed order in margin trading, there is both the "C" key to close the position and the "X" key to cancel the part of the order not yet executed.

- > "IN/OV ": indicates if the margin trading is intraday or multiday
- > "B/S": indicates whether the order is Buy or Sell.
- > "EXE.Q": executed quantity of the order.
- > "EXE.P": executed price of the order.
- > "C" key for closing the position
- > "X" key to cancel the part of the order not yet executed

For margin trading on futures and forex, the automatic Stop Loss will be displayed with a grey label, indicating the price, associated to a continuous line.

Note: for transactions on Forex and derivatives, the labels of the orders entered, executed and partially executed, do not have the C key; you can close the transactions only by entering an order in the opposite direction or, by using the "C" key in the Securities Portfolio.

> Closing a position

By clicking the key "C" in each label of the orders which make up the position, the partial or total position closing pop up will appear.

By filling in the fields and confirming the order, the corresponding label will appear on the chart; when the order is executed all the labels of the orders which make up the position and the Stop loss label will disappear from the chart as well.

In case of the Forex market, when you re-open a previously closed position, you will see the new stop loss and previous orders executed.

Should you have a margin position open, with orders associated with it still entered, and you click the key "C" to close the position (giving closing confirmation) the position resets, but remains open as a result of the orders still entered.

> Trade and Reverse

When a margin position is overturned with a trade and reverse, the label of the first Stop loss in the trading chart is cancelled and a new label appears at the new recalculated stop level.

5.g. View, edit and delete Stop loss, Take profit and Trailing Stop

It is possible to view, edit and delete a Stop loss, Take profit and trailing stop set on the single orders directly on the chart.

By entering orders associated with any stop loss, take profit and trailing stop, all the labels displaying SI / Tp / trailing values will appear on the chart near the order label (on the far right).

The labels will display:

- The type of strategy set: Stop – Take or Trailing
- The set price
- The "x" that automatically erases the single strategy

By clicking the right mouse button, the "stop loss and trailing" popup will appear in the single label which allows you to enter/edit/delete strategies.

Therefore, the strategy may be:

- entered from the order entry or the monitor
- modified by using the icons that open the "stop loss and trailing" pop-up in the order screen or by recovering the same pop-up from the label
- deleted from both the pop up and the "x" positioned on the label



If there are several close orders (based on timeframe or type of operation) on which various strategies were entered, by passing the mouse over the label of the order, you will see the strategy associated with the order itself superimposed.

Should the labels affect the reading of the chart, you can temporarily hide them by clicking on any part of the chart; should you want to see them again, just go over the label of the order with the mouse and they will reappear.

5.h. Overlapping labels

If there are numerous orders on the chart on neighbouring price levels, the labels will overlap.

To highlight orders covered by other labels, the last entered/executed order label will appear in the foreground with the number of the covered orders, for example in the image below you can see the case of 3 neighbouring orders:



When you stay with your mouse over the label, all the labels below will "explode",

5.i. BID/ASK indicator

By activating the chart trading and setting an intraday timeframe, you will view the price on the first bid and ask level directly on the chart.

It is also possible to view the composition of the amounts in the first 5 levels of the book as a histogram. In the picture below, you can see the yellow labels on the right indicating the bid-ask prices, and blue for the last one, next to the graphical display of the amounts in the book.



Should the last price overlap with the bid-ask one, the last price will remain in the foreground.

6. Multicharts

The Multichart mode allows you to choose from a range of chart configurations in order to "keep an eye" on other security charts with greater ease and speed, all in a single pop up.



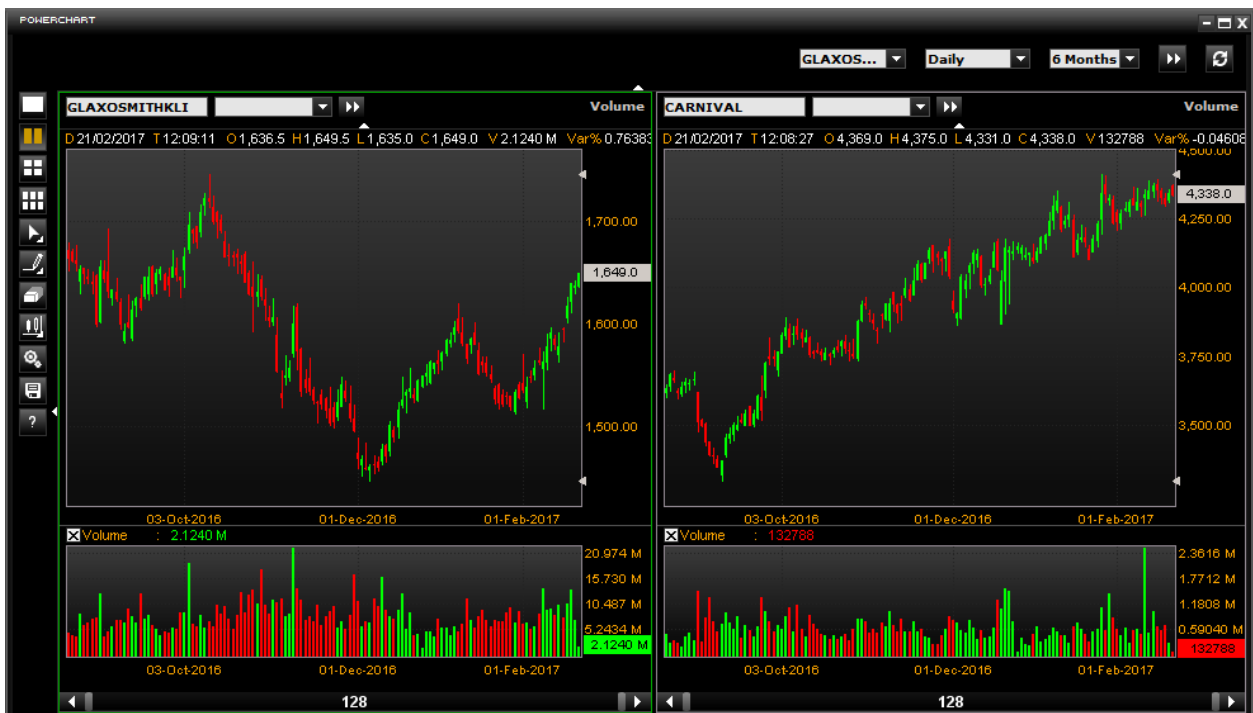
When opening a chart, you will see the "Multichart" icon  which, when clicked, will change the pop up display.

The new popup displayed will be divided into two parts: on the left, you will see the chart of the previously selected security as well as the volumes and the right section which will be initially empty.

In the right section, by entering in the search windows the name or security symbol and selecting the market, you will see the security's chart.

Securities can be entered into the empty sections even with the drag & drop from the security's Watchlist string or from the predefined lists.

You can choose three different contextual configurations: a 2-chart, a 4-chart and a 6-chart layout.





It is possible to expand the chart to full screen, or narrow it down and change the popup for a horizontal or vertical display, simply by dragging the right box frame of the popup. By dragging the box frame, the charts will shrink and they can be aligned horizontally or vertically as you wish:



6.a. Multichart structure

The pop-up which opens at the top has a common bar with the pull-down menu in order to select the chart's time frames and the depth which will be applied equally to all charts.



In the left hand frame, you will see:

- three icons to open the different configurations:




which allows you to view two charts




or to view four charts



or to view 6 charts

- the icon  to change the chart layout (candlestick or linear)

- the icon  «Back to Chart» to return to Powerchart. It allows you to return to the chart of the starting security or the selected chart.

N.B.: If you open a Multichart, the starting X security chart is highlighted with a green frame, should you click on another chart (Y security), the latter will be highlighted, and if you click the icon the Y security chart will then be displayed.



- refer to the Powerchart manual



- which opens the Multichart save pop-up



- to enter trendlines



- it is the icon that allows you to edit the multichart configuration:

when off (by default) it allows an automatic configuration of the charts. Therefore, all the charts will open with an equal size, and if you drag their box frame they will all expand and shrink.

when clicked (it stays lit) it lets you enlarge and shrink all the charts by simply dragging their frame.

Volume In addition, you can clear each chart of all Volumes; to restore them, there is the "Volume" link which will light up whenever the volumes are removed from the chart.

3. General description

PowerChart is one of the most advanced systems for studying market trends and financial instruments thanks to its indicators and chart studies, to the interactivity and the usability. It is also fully integrated with PowerDesk2.

Professional – It is the ideal support tool for your analysis and investment activities.

Advanced and comprehensive - The wide range of indicators and advanced charting studies allows it to meet the needs of even the more experienced analysts.

Easy to use – A simple and intuitive interface and the possibility of calling up all its features with just one click make it an instrument suitable for private investors as well.

Customisable - With a simple click of the mouse you can choose and define the layout, the size, the colours, the parameters of the indicators and the time frame.

Push - Real time updates by push technology for fast analysis and decisions.



The main features are controlled via the icons arranged around the chart area which allow you to select the main features of the application which are then displayed in the main panel and in the two side panels.

The main panel shows the previous historical chart of the security:



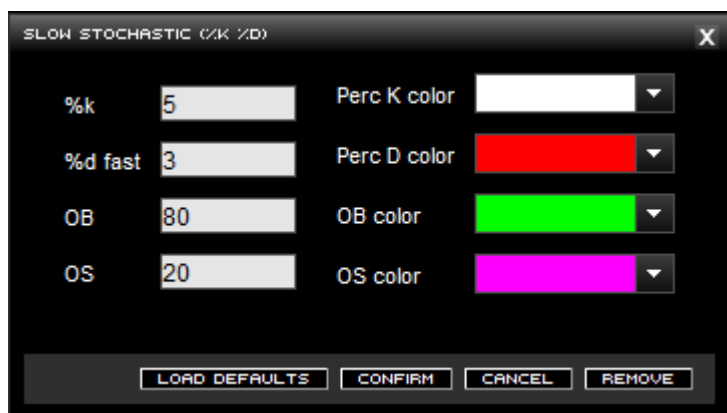
The subpanels show the volumes, technical indicators or the zoom:



When the indicator is displayed, the label values appear on the upper left edge and on the right edge of the panel. These labels take on the same colour as the indicator:

X Slow Stochastic (%K %D) %K : 14.579 %D : 20.932

The indicator name (whether volume or zoom) can be removed from X, and you can open the features for any selected indicator:

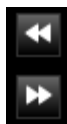


4. Management controls and Features

4.a. Zoom, shifts on the chart and grids



To use the chat's zoom press the "Chart Zoom in" button to enlarge it. By clicking "Shrink Chart" you will have the opposite effect.



To scroll the chart, click on the arrow keys, or the scroll bar at the bottom of the chart window.

4.b. Data viewing mode



By clicking on the "Pointer" icon you can access the cross-hair, horizontal line and vertical line cursors. When selecting the cross-hair or the vertical cursor, sliding the mouse on the central



panel, the following will be dynamically displayed: Date, Time, Opening, High, Low, Close, Volume and Variation.



If data are not displayed correctly, just click on "Reload Data". You will not lose data already configured in the chart.



Should there be more than one trendline drawn on the chart, and none is selected, the "Undo" button clears all drawn trendlines. To delete a single trend line you must select it and then click the button.



By clicking on the Linear Scale icon, you can choose whether to display the charts in a linear or logarithmic scale.



4.c. Analysis Charts



By clicking on the icon at the side, you can view the various types of charts: linear, bar, candlestick, candle volume, equivolume and mountain charts.



Later we will explain in detail each of the views and how they are generated.



Compare charts, comparative performance charts. By selecting this



icon, you will access the Point and Figure chart.



Price Distribution correlates the volumes traded with the prices. Click again to return to the previous screen.

4.d. Manual tracing of Chart Studies



By clicking on the icon at the side, you can choose which trendline to track. The trendline can be free, parallel, horizontal and vertical. The simple trendline indicates the % of variation and the deviation between one point and the other of the straight line.



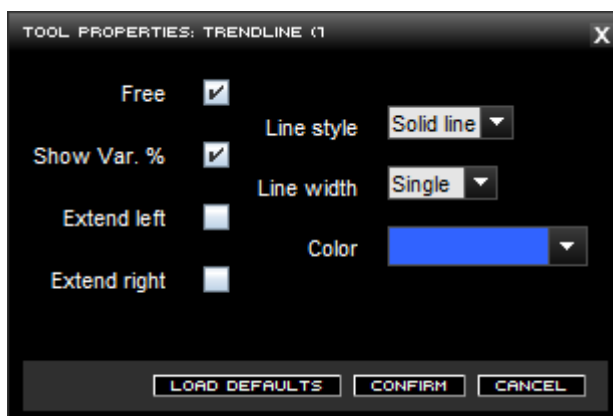
By clicking on the icon, you can choose to draw the following studies: Gann Fan, Fibonacci retracement levels, Fibonacci Time Zones, Fibonacci Fan, Fibonacci Arc.

By clicking on the icon, you can choose to draw the following studies: Quadrant lines, Tirone Levels, Speed resistance lines, Speed Resistance Arcs.

By clicking on the icon, you can choose to draw the following studies: Linear Regression Trendline, Raff Regression Channel, Standard Error Channel, Standard Deviation Channel.

By clicking on the icon you can highlight areas of the chart and customise these in size and colour. You can choose a rectangular or an elliptical shape. Finally, by clicking the T (text) button you can enter text comments directly on the chart. By right-clicking on the object you obtain the properties for all three types.

By right-clicking on the single drawn trendline, you can access the trendline's properties panel:



The same applies to advanced studies; by right-clicking on the study you enter property panel management:



4.e. Edit Parameters, Save Studies and Additional Data



It is possible to save your studies on a particular security (Workspace), copy specific features according to your preferences to all the charts used (Template), or display the specific multichart you have created.

When I apply my favourite indicators and advanced studies, I can save them to a Template and reload them at any time, on any open instrument. I can save up to 10 Templates.



By clicking on the "workspace" tab you can save, retrieve and modify up to 10 workspaces: your analysis or chart studies for a single security.

In addition, you can recall up to 10 Multicharts in order to view the charts of your favourite securities simultaneously.

4.f. Print features



By clicking on the icon, you can choose to save to your desktop or to print the chart below.

4.g. Overlapping zoom feature



You can zoom in a portion of the chart. By clicking the icon at the side, you activate the zoom (the lens becomes dark), then you can select the area of interest in the chart and zoom as you wish. To return to the screen before zooming, you have to click twice on the lens with the mouse (reset).



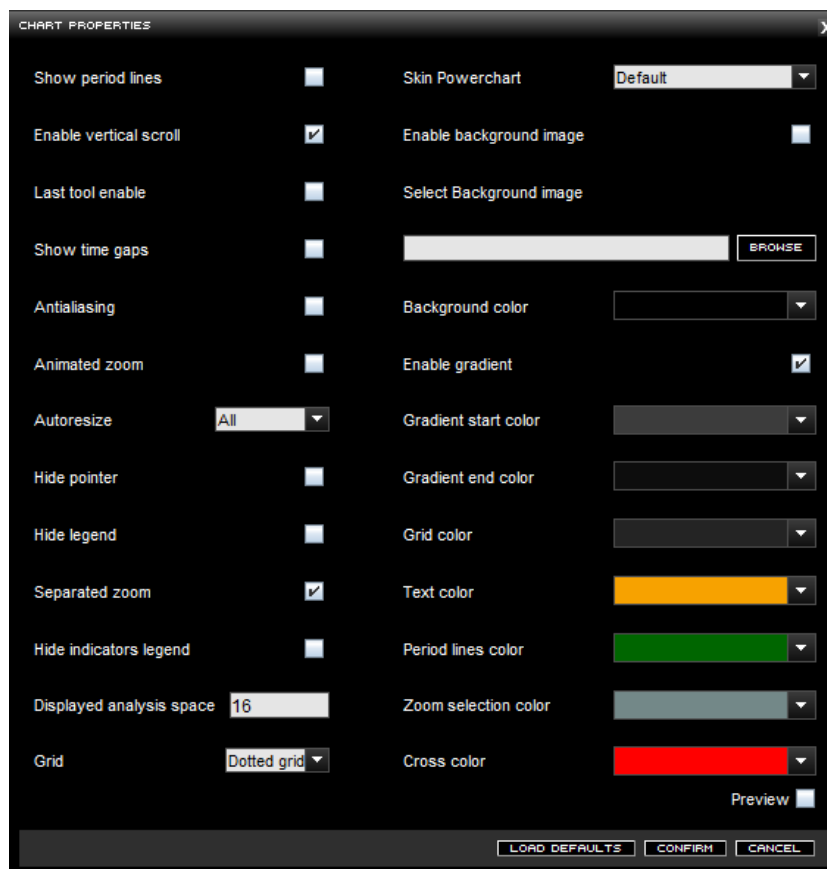
4.h. General notes

5. Some icons have a small black triangle in the lower right corner, this indicates that there are several instruments of the same functional class, accessible through a pop-up menu. Select any icon showing a triangle, click it and by holding the mouse button, you'll see the other available instruments.
6. Next to the sidebars buttons and below the upper menu bar, you may find some small white triangles with which you can temporarily hide the bars so as to enlarge.
7. By double-clicking the left button, you can expand the timeframe of the chart to a full screen. The mouse right button, instead, can open the properties of the chart's candles as well as the trendline, indicators, etc.
8. By clicking and dragging with the left mouse button, you can scroll the chart.

2.k. Settings: Chart properties



From this icon you can access the Properties chart. Under the picture of the panel to manage your preferences.



The features are intuitive, the flag enables/disables the action shown alongside.

The Grid tool lets you define the type of grid highlighting you want: dotted grid, a grid line, no grid.

The Skin Powerchart tool allows you to select the chart background colour: the Default selection allows you to automatically change the colour of the chart depending on the colour you have chosen as the backdrop to Powerdesk platform.

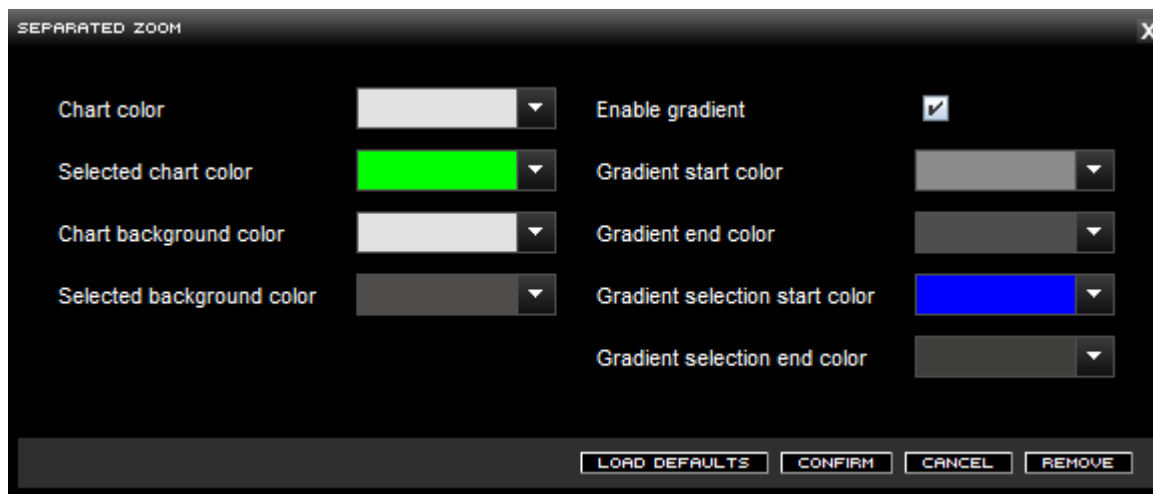
The Preview flag allows you to instantly see your choices on the chart, before confirming them.

The separate zoom, flagged by default, allows you to view the following subpanel:



This feature allows you to zoom a particular timeframe of the chart; by clicking with the left mouse button on the scroll you can choose the desired timeframe.

The separate zoom can be managed with the properties panel which may be activated by clicking on the label:



2.1. Export previous operations



From this icon you can view, export and print the historical data of the chart you are looking at. A descriptive example of the new feature is given below.

POWERCHART X

History Series: ADM.L

DATE	OPEN	HIGH	LOW	CLOSE	VAR % CLOSE	VOLUME
10/08/16	2,243.0	2,258.0	2,240.0	2,248.0	0.00	595031
11/08/16	2,252.0	2,263.0	2,230.0	2,249.0	0.04	708849
12/08/16	2,248.0	2,260.0	2,242.0	2,245.0	-0.18	505916
15/08/16	2,252.0	2,277.0	2,247.0	2,260.0	0.67	799245
16/08/16	2,245.0	2,288.0	2,243.0	2,254.0	-0.27	892381
17/08/16	2,097.0	2,129.0	2,051.0	2,081.0	-7.68	1818907
18/08/16	2,085.0	2,143.5	2,075.0	2,131.0	2.40	885054
19/08/16	2,128.0	2,133.0	2,076.5	2,130.0	-0.05	796423
22/08/16	2,128.0	2,152.0	2,118.0	2,124.0	-0.28	482463
23/08/16	2,134.0	2,144.0	2,122.0	2,122.0	-0.09	486061
24/08/16	2,110.0	2,131.0	2,080.0	2,086.0	-1.70	716765
25/08/16	2,073.0	2,081.0	2,056.0	2,062.0	-1.15	765602
26/08/16	2,060.0	2,071.0	2,041.0	2,044.0	-0.87	715855
30/08/16	2,055.0	2,062.0	2,045.0	2,048.0	0.20	715957
31/08/16	2,050.0	2,068.0	2,049.0	2,050.0	0.10	764028

3. Technical analysis charts

1.a. Linear Chart

A linear chart is the simplest type of chart. The single line represents the closing price on each day. Dates are displayed at the bottom of the chart and prices are displayed on the right side.



The effectiveness of the linear chart is determined by its simplicity, since it represents the price of the financial instrument in an orderly and easy to understand way. Generally, linear charts use the closing prices of the financial instrument.

3.c. Bar Chart

A Bar Chart uses the opening price (if available), the maximum, the minimum and the closing price. Bar Charts are the most popular graphic representations of financial instruments.



As shown in the image below, the upper end of each vertical bar represents the maximum price that the financial instrument reaches during the trading period, whilst the lower ends the minimum price. The closing price is highlighted by a horizontal line to the right of the bar. On the left side, there is another horizontal bar line which corresponds to the opening price.



3.d. Japanese Candlesticks

In 1600, Japan developed a technical analysis method to analyse the price of rice. This technique is called Candlestick Charting. Steven Nison made Candlestick Charts very popular and was recognized as the greatest expert in interpreting them.

The Candlestick Chart shows the opening, the maximum and minimum as well as the closing price, in a format similar to the modern daily bar chart, but in a way that minimises the relationship between the opening and closing prices. Candlestick Charts represent a new way of looking at the price and do not require any calculation.

Each candle represents a period (for example one day).

In a Candlestick Chart, in order to represent the oscillation of the price in a set period of time, you use a figure called Candle Line consisting of a central body called Real body, which indicates the price variation between the opening and the closing price, the Shadows, individual thin lines which represent the maximum prices (Upper Shadow) and the minimum ones (Lower Shadow) during the period of time under consideration.

The body of the candle can be (as shown by default in the Chart) green or red: it has a red body when the close is lower than the open and therefore characterises a day with a negative trend, while a green body shows us a bullish day with a closing price higher than the opening one.

Since candles represent the relationship between the open, high, low and close price, they cannot represent a financial instrument not having a closing or opening price. If you want to use a Candlestick Chart for a financial instrument which does not have the opening price, we suggest you use the closing price of the previous day instead of the opening price. This technique can create candles and figures (patterns) which are uncommon but equally valid.



1.b. Equivolume & Candlevolume

The Equivolume represents prices so as to focus attention on the relationship between price and volume. Equivolume was developed by Richard W. Arms, Jr.

Instead of representing the volume as a secondary element on the bottom panel of the chart, Equivolume combines price and volume in a two-dimensional box. The top line of the box is the maximum in the period and the line below the minimum. The box's width is what characterises the Equivolume and it represents the period volume. The image below represents the components of the Equivolume box.



The measurement in the lower part of the Equivolume Chart unit is based on the volume, and not on dates. This suggests that volume, rather than time, is the key element which influences the price change. To quote Arms, "If the market were a wristwatch it would be divided into parts instead of hours".

3.h. Candlevolume

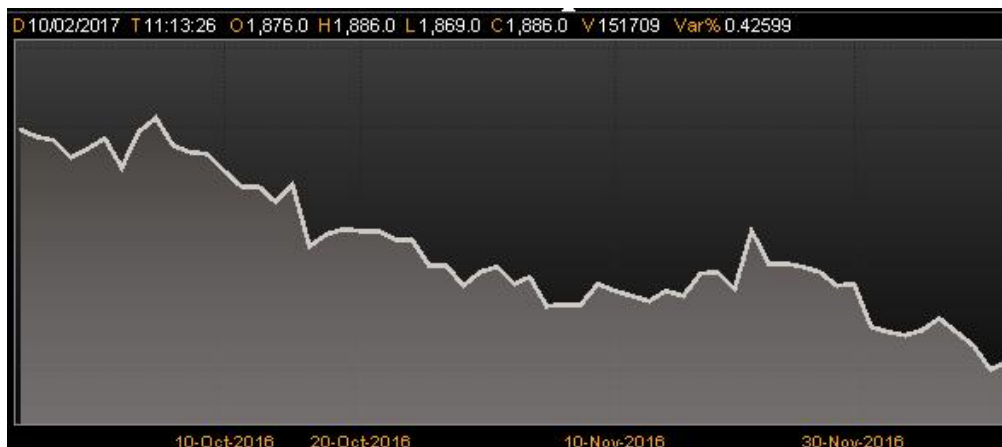
The Candlevolume Chart is a hybrid between the Equivolume and the Candlestick Chart. The Candlevolume Chart has the shadows (or lines) and the characteristic bodies of Candlestick Charts, plus the width of the Equivolume Chart volume. This combination allows you to study the Candlestick configurations and their volume on the basis of the movements.

The structure of each Equivolume box provides a picture of the supply and demand of the financial instrument during the trading period. Short and wide boxes (high volumes accompanied by limited price changes) are found at the reversal points, while high and narrow boxes (reduced volumes accompanied by significant price changes) are mostly found in well-defined trends.

The boxes which push through support and resistance levels are particularly important, since the volume confirms penetration. A "power box" is a box in which both the height and the width increase substantially and it provides an excellent confirmation of the break. A narrow box because of reduced volumes, questions the validity of the break.

3.i. Mountain Effect

The mountain chart is built with the same criteria as the linear one, but it has a different colour called "mountain" effect.



3.j. Compare Charts

The Compare Chart is a progressive, modern tool for comparing the performance of financial instruments in a given period of time.

The 'Performance' is the percentage change in the instrument's closing price over time. This type of chart is very useful for viewing the relative performance, the sector rotation and the correlations between markets.

- Comparison between different instruments: the normalisation of performances enables comparing various types of instruments, such as funds with benchmarks and shares with indexes.
- Dynamic benchmarking: you can calculate performances compared to a reference instrument or a predetermined benchmark.

> Functionality

7. Time frame

From the drop down menu located at the top right, you can select the default period - intraday, daily, weekly, monthly - you want the chart to display.

8. Definition of reference for performance calculation.

There are three ways:

- On the basis of the first historical data: the performances are calculated from the first available data.
- From the edge of the chart: in this case, the calculation starts from the first data visible on the left edge of the window.
- From the selected date: by selecting this item, performances are calculated from the point where the mouse is at



that time.

9. Background grid.

You can choose between three types of grids to set as a background to the comparison chart



10. Information management



While passing the mouse on the chart, the "View data labels" feature allows viewing the instrument name, the price, the cumulative percentage variation up to that moment for each point of the historical data.



Gap management: these three buttons change the display of an intraday chart of securities belonging to different countries with different trading times, highlighting any time gaps.



Definition of the zero axis: the icon positions the zero axis at the centre of the window.

11. Different graphical representations



By clicking on the linear chart icon, you can choose the default graphical representation. It can be a linear one where the coloured lines represent the performance trends in the selected period. Or a Histogram, which is useful if the user is not interested in the performance trend, but only in the period's final result.

The candlestick chart icon allows you to return to the previous screen.

12. Scrollbar

The scroll bar allows total control of the historical data:

- Control of the sample on which you wish to perform the analysis (number of selected data)
- The time frame on which you wish to perform the analysis (moving the bar to the right and to the left)
- Control of the start and end points (historical period)

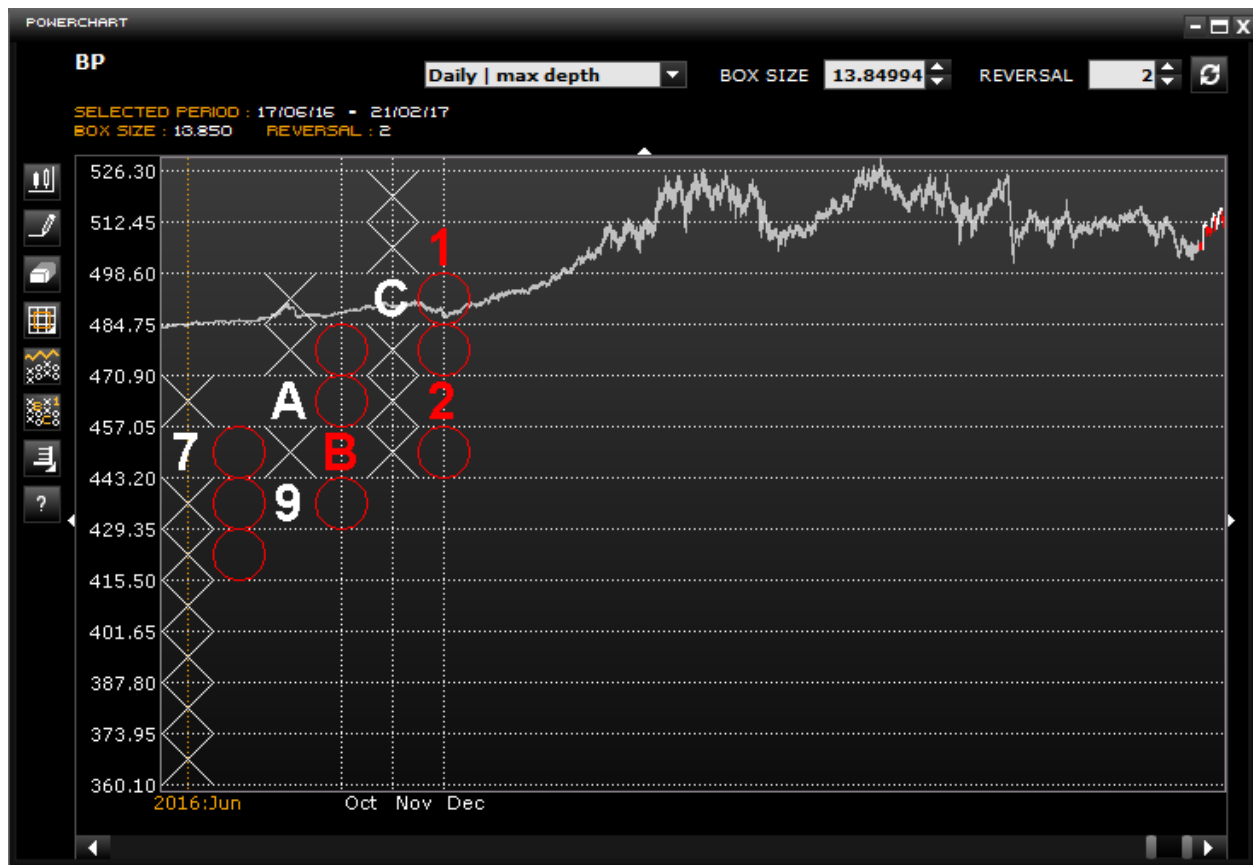


3.k. Point and Figure

The Point & Figure ("P&F") Chart differs from traditional charts as it completely ignores the passage of time and only displays price changes. Rather than having the price on the y axis and the time on the x one, the P&F chart shows price changes on both axes.

The Point & Figure chart shows the price demand and supply. The X column indicates that the demand is exceeding the supply (bullish market) and the O column shows that the supply is exceeding the demand (the market is bearish); and a series of short columns indicates that demand and supply are relatively equal.

The P & F clearly identifies different figures (patterns) such as the Double Top and Double Bottom, Bullish and Bearish Formations, Ascending and Descending Symmetrical Triangles, Triple Top and Bottom, etc.



> Calculation

The Point & Figure chart displays an "X" in the "Box Size" (whose size is directly determined by the user) when the price rises, and displays an "O" when the price falls within the Box Size. It should be noted that no O and no X will be drawn if the price rises or falls by an amount lower than the value of the box size.

Each column can contain both an X and an O, but never simultaneously. To change columns (e.g. from an X to an O one), the price inversion must be equal to the product between the "Reversal Amount" (the user is the one who decides the value in this case also) and the box size. For example, if the size box has three points and the reversal amount is 2 boxes, then prices must reverse direction by 6 points (3 times 2) in order to change column. If you are on a X column, the price must fall by 6 points to move to the O column. If instead you are on an O column, the price must rise by 6 points to move to the X column.

The change of column identifies a change in the price trend. When a new X column appears, it means that the price is rising; a new O column, instead, indicates that the price is moving downwards.

The minimum number of X or O which can be displayed in a column is equal to the "Reversal Amount."

It is common practice to use the Maximum and Minimum prices (and not just the closing one) to decide whether prices have varied enough to display a new box.

> **Box Size**

The Box Size, which may be controlled via a specific menu, is the minimum price movement in order to add an X or an O above/below the current column.



> Reversal

The Reversal Amount of the chart is controlled by the scrollbar. As soon as the price makes a correction (in the opposite direction to the current trend) by a total amount greater than the Reversal Amount multiplied by the Box-Size, a new column is added to the right of the current column.



The traditional default value for the Reversal Amount is typically 2. By increasing the reversal amount you increase the compression of the chart as larger price movements are required in order to add new columns.

The larger the values of the Reversal, the greater the compression of the chart, the number of columns decreases and less significant trends are filtered (optimal settings for long-term trend analysis). Small Reversal values allow you to view minor trends (short-period analysis).

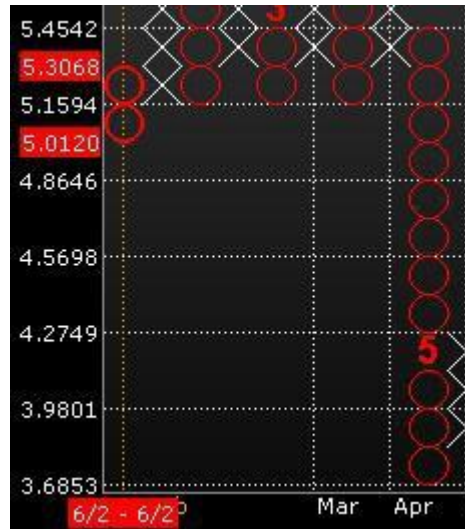
> Functionality

6. To draw Trendlines simply click and drag the mouse over the chart. Trendlines can be drawn horizontally or at 45 degrees. To delete a Trendline just select it with the mouse and press the 'Delete' button.

NOTE: should you change the BOX-Size or the Reversal-Amount, any Trendline will be cancelled.

7. Info Box

By moving the mouse over the columns, the labels will appear on the axes as regards the maximum and minimum price considered for that column and the starting and ending date of that column.



8. Number of the Month

When this feature is activated, the first box which represents the beginning of the month is replaced by a number or a letter, the letters 'A' - 'B' - 'C' are used for the months of October, November, and December; the numbers from 1 to 9 respectively represent the months from January to September.



9. Price Chart

Show / Hide the price chart: it displays the price chart corresponding to the period represented by the Point & Figure Chart:



The period NOT represented in the P & F is coloured in grey, while the rise in prices takes on the same colour as the (X) and the decrease the same colour as the (O).

10. Control of the historical data

The scrollbar allows you to select the number of days which the P & F chart must cover. The total number of days is displayed at the centre of the scrollbar; the selected period (start and end date) is displayed at the bottom left of the chart.

To increase or decrease the total number of days, select and drag the edge of the scroll bar with the mouse to the right or left whilst pressing the | --- sign.



To change the "window" of data coverage (while maintaining the time frame unchanged) select and drag the centre of the scroll bar from right to left with the mouse.

3.1. Time frame


From the drop down menu located at the top right, you can select the default period - intraday, daily, weekly, monthly - you want the chart to display.

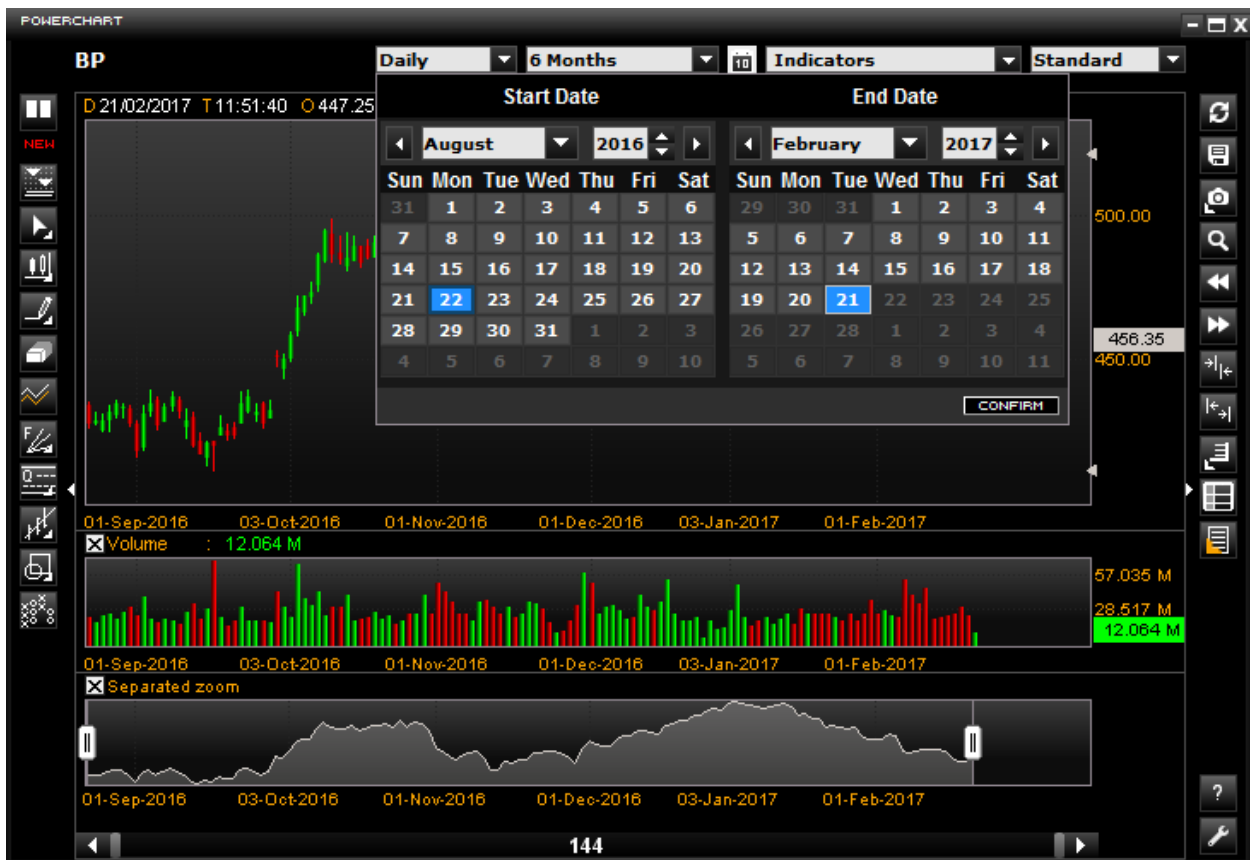
You can view charts from a tick by tick time frame up to 30 years.

In the chosen time frame, you can select "(x) custom units". By clicking it you will add a new "select" between the "select" frequency and depth, with up/down arrows to select the number of candles you want to view.

Should you request a number of candles that goes beyond the available historical data, the maximum possible number of candles is shown.

Moreover, it is possible to select a more detailed period of the selected chart, with a calendar on which you can choose the desired period.

By clicking the icon  a calendar will open which allows you to select the specific start and end dates of the chart.



4. Technical analysis indicators

1.c. Moving averages

A Moving Average is an indicator which shows the average value of the price of a financial instrument over a period of time. When calculating a moving average you are making a mathematical analysis of the average value of the financial instrument over a given period of time. When the financial instrument's price changes, its average price rises or falls.

There are several types of moving averages: simple (that is arithmetic), exponential, triangular and weighted. Moving Averages can be calculated on any data series, including open, high, low, close, volume, or any other indicator. It is also possible to calculate a moving average of another moving average.

The only significant difference between the various types of moving averages is the weight assigned to the most recent data. The simple moving average gives equal value to the prices. Exponential and weighted averages attribute greater weight to more recent data. Triangular averages give greater weight to prices at the centre of the chosen period.

The most popular method of interpreting a moving average is to compare the relationship between the moving average of a financial instrument price with the price of the financial instrument itself. A buy signal occurs when the financial instrument's price rises above its moving average and a sell signal occurs when the price falls below its moving average.

The critical element in calculating a moving average, is the number of time frames over which it is calculated. With hindsight you can always find a moving average which would have been advantageous, but the right key is to find a moving average which is systematically profitable.

The length of a moving average should fit the market cycle you wish to follow.

You can convert a daily moving average into a weekly one by dividing the number of days by 5 (e.g. A 200-day moving average is almost identical to a 40-day one). To convert a daily moving average into a monthly one, divide the number of days by 21 (e.g. a 200-day moving average is very similar to a 9-month one as there are approximately 21 trading days in a month).

Moving averages can be calculated and drawn on the indicators. The interpretation of a moving average of an indicator is similar to the interpretation of a moving average for a financial instrument: when the indicator rises above its moving average, it means there is a continuous upward movement; when the indicator falls below the moving average, it means there is a constant downward movement.

The indicators which are particularly suitable for using the moving average penetration systems are: MACD, ROC, Momentum, and Stochastic.

Some indicators such as the short-term stochastic, fluctuate so irregularly that it is difficult to identify their real trend. By erasing the indicator and then drawing the indicator's moving average, you can see the general trend of the indicator rather than its daily fluctuations.

It is possible to reduce false signals, at the expense of slightly delayed signals, by calculating a short-term moving average (e.g. 2-10 days) on oscillating indicators such as the 12-day ROC, the Stochastic or the RSI. For example, rather than selling when the Stochastic Oscillator falls below 80, you could sell when a 5-period moving average of the Stochastic Oscillator falls below 80.

Although the moving average does not accurately detect the maximum and the minimum prices, it provides a good indication of their direction.

EMA (Exponential Moving Averages)

It is an evolution of the weighted average, where the increased emphasis to be given to recent data is obtained by taking into account all the elements of the series but with an exponentially decreasing weight. The weights correspond to the progression: 1, a , $a(\exp 2)$, $a(\exp 3)$, ..., $a(\exp n-1)$, where " a " is a coefficient between 0 and 1. Thus, the weight of the first data of the series will be lower as time passes, until it becomes infinitesimal, but still a part of the calculation. The concept underlying the construction of the exponential average is probably more sophisticated and rational, but that does not mean that this type of media is necessarily more effective in its practical application.

An exponential moving average (or an exponentially weighted one) is calculated by applying a percentage of today's closing price to the value of yesterday's moving average. Exponential moving averages give greater weight to recent prices.

For example, to calculate a 9% exponential moving average of ALLEANZA, you have to take today's closing price and multiply it by 9%. Then, you must add this product to yesterday's moving average multiplied by 91% ($100\% - 9\% = 91\%$).

As most investors prefer to work with time periods rather than with percentages, the exponential percentage can be converted into an approximate number of days. For example, a 9% exponential moving average is equal to an exponential moving average of 21.2 periods of time (rounded to 21).

SMA (Simple Moving Average)

A moving average is a price average calculated for a given period of time. For example, a 30-bar moving average includes the last thirty measurements of the value of an asset in the calculation. The following day, the moving average replaces the bar at the top of the latest series (which is now the thirty-first day) with the most recent bar, in order to calculate the moving average of the current bar.

A simple or arithmetic moving average is calculated by adding the closing price of the financial instrument for a set number of periods (e.g. 12 days) and then by dividing the total by the number of periods. The result is the average price of the financial instrument in the period under consideration. Simple moving averages give equal weight to each daily price.

For example, to calculate a 21-day moving average of ALLEANZA, first of all, you must add up the closing prices of ALLEANZA in the last 21 days. Then, you have to divide the sum by 21; this would give you the average price of ALLEANZA of the previous 21 days. Now you can trace the average price on the chart. You should do the same calculation tomorrow: add up the closing prices of the previous 21 days, divide by 21, and draw the results on the chart.

Adaptive Moving Average

One of the problems encountered in the use of moving averages concerns the choice of the period to be used; while the faster moving average may be more effective in a market with little movement, a slower one will be preferable in a market with a clearly defined trend.

To overcome this problem Perry Kaufman created a moving average which, by using a study base on the market's volatility, adapts its speed. The calculations and the theory on which this type of moving average is based on are not easy to learn and they rely on fairly advanced statistics and mathematics concepts. An efficiency ratio has also been created, which compares the price movements with the level of volatility.

When the efficiency ratio is high, the movement is greater than the volatility, favouring the faster average; when it is low, the volatility is greater than the movement, which leads to a slower moving average. By incorporating the efficiency ratio there is an automatic adjustment of the adaptive moving average to the most appropriate speed for the current market.

Envelope Moving average

It consists of two moving averages. One moving average is towards the top and the second one is lower down.

The Envelope defines the upper and lower trading range levels of a financial instrument. When the financial instrument reaches the upper price range it generates a sell signal, while you have a buy signal when the lower level is reached. The optimal percentage moves according to the volatility of the financial instrument - the higher the volatility, the wider the percentage. The logic behind the envelope is that very zealous buyers and sellers push prices to extremes (e.g. upper and lower price range levels). Once they have reached these points, the prices often stabilise, moving to more realistic levels. This is similar to the interpretation of the Bollinger Bands.

Triangular Moving Average

Triangular moving averages give greater weight to prices at the centre of the chosen period. The periods used in the simple moving average vary according to whether you specify any time period or a specific number.

The following sections explain how to calculate a 12-period triangular moving average: Add 1 to the number of periods in the moving average (e.g. 12 plus 1 equals 13).

Divide the sum at point 1 by 2 (e.g. 13 divided by 2 is equal to 6.5).

If the result of step 2 is a decimal number, round up the result (e.g. round up 6.5 to 7). Using the value of point 3 (e.g. 7), calculate a simple moving average of the closing prices (e.g. a 7-period simple moving average).

Once again using the value of point 3 (e.g. 7), calculate a simple moving average of the moving average calculated in step 4 (e.g. a moving average of a moving average).

Weighted Moving Average

Weighted Moving Averages (WMA) have been designed to address the problem of simple moving averages in relation to the weight to be assigned to the values taken into consideration. A weighted moving average gives more weight to recent data and less to past data. A weighted moving average is calculated by multiplying each datum of the previous day by a weight. The following table shows the calculation of a 5-day weighted average.

5-day Weighted Moving Average

Day Weight Price Average

$$1 \ 1 * 25.00 = 25$$

$$2 \ 2 * 26.00 = 52$$

$$3 \ 3 * 28.00 = 84$$

$$4 \ 4 * 25.00 = 100$$

$$5 \ 5 * 29.00 = 145$$

$$\text{Total } 15 * 133.00 = 406/15 = 27,067$$

The weight is based on a certain number of days in the moving average. In the above example, the weight of the first day is 1.0 while the value of the most recent day is 5.0. This gives today's price a weight 5 times greater than the price of 5 days ago.

HMA

Implementing the Hull Moving average, which aims to be more reactive to the movements of financial instruments' prices compared with simple moving averages, while still maintaining a smoother performance.

MMA

Modified Moving Average by Joe Sharp, i.e. a modified version of the moving average, who created a smoother version without losing responsiveness to price movements.

4.a. Oscillators

ADX

It determines the presence of any market trends and measures their intensity. Low ADX values identify a market without a specific trend and with low volatility. The indicator is also useful for calculating possible intensity decreases of current trends.

Directional Movement.

It determines whether a financial instrument is in a "directional" phase and was developed by Welles Wilder. The Directional Movement compares the 14-day +DI ("Directional Indicator") and the 14-day -DI. This can be done by drawing the two indicators, one over the other, or by subtracting the + DI from the -DI. Wilder suggests buying when the +DI rises above the -DI and selling when the +DI falls below the -DI. Wilder defines these simple trading rules as the "extreme point rule". This rule was designed to prevent false signals and reduce the number of purchase/sale transactions. According to the extreme point rule, on the day that the +DI and -DI cross, you can see the "extreme point". When? when the + DI rises above the -DI, the extreme price is the highest price of the day when the lines intersect. When the + DI falls below the -DI, the extreme point is the minimum price of the day when the lines meet.

The extreme point, therefore, is used as a buy/sell signal. For example, after identifying a buy signal (the +DI rose above the -DI), you might wait until the financial instrument's price rises above the extreme point (the maximum price on the day the + DI and -DI cross) before buying. If the price goes down first and then rises above the extreme point, you could continue to maintain a short position.

KCD

It can be considered a new version of the MACD: while the KCD indicator is based on mathematical calculations which are much more complex than those of the MACD, its graphical representation looks virtually identical.

The main difference between the MACD and the KCD is that the latter provides much more reliable divergence signals avoiding those false differences which the MACD tends to give. It is also much more stable around the zero line. When the MACD is near zero it tends to generate shapeless and irregular histogram lines, while the KaseCD generates clearer and more rounded formations.

This provides better results as the functions on which the indicator is based, automatically seek the most significant trend duration, adapting to the market cycle in order to provide a more thorough assessment of its conduct. This indicator is not only statistically reliable, but it is also adaptive in the sense that it chooses the most significant cycle duration among the range of past durations in order to adjust its trend parameter.

KCD is the difference between the Peak Oscillator and the Peak Oscillator average.

$$KCD = \text{Peak Oscillator} - \text{Average (Peak Oscillator, } n)$$

Peak Oscillator

It uses the KSDI as a measure of trends instead of a moving average and is calculated as follows:

$$KSDI_{up} = \text{Log}(\text{Maximum } [0] / \text{Minimum } [n]) / \sqrt[n]{n} \quad KSDI_{down} = \text{Log}(\text{Maximum } [n] / \text{Minimum } [0]) / \sqrt[n]{n}$$

Using this indicator provides a number of advantages compared with traditional momentum indicators such as the Stochastic. The Stochastic is locally normalised (price activity in the short run), therefore it is not possible to compare the value of the stochastic in a highly volatile market with the value of a stochastic in a quiet market. Similarly, you cannot compare a 5-minute Stochastic with a 60-minute one.

The Peak Oscillator is normalised on the range of prices and therefore on the volatility (the range is proportional to the volatility): thus, it is possible to obtain a universal indicator which measures the momentum relating to the volatility and which allows the comparison between markets and between different temporal compressions.

A second advantage is simply a higher degree of reliability of the momentum divergences. With traditional divergence there is a difference in the direction of price and of momentum which is commonly referred to as the “absolute maximum price and lowest minimum of the momentum, or to an absolute minimum price and the highest minimum of momentum”. The Peak Oscillator does not only generate a divergence where traditional indicators do not, but it also has another advantage: from time to time the market is in a spike situation where there is no possible divergence signal. In order to have a divergence, it is necessary to have two maxima and two minima. In a Spike Formation, where there is only one maximum and a minimum, indicators such as the Stochastic oscillator and the RSI are unable to identify any market changes.

The Peak Oscillator, by generating a Peak Out signal, not only warns of the imminence of a difference of a subsequent maximum or minimum, but that the market may suddenly reverse.

Money Flow Index ("MFI")

It is a momentum indicator which measures the strength of the incoming and outgoing cash flow of a financial instrument. It is linked to the Relative Strength Index: the RSI only incorporates prices, while the Money Flow Index also takes volumes into account.

Looking for divergences between the indicator and the share price, if the price trends higher and the MFI trends downwards (or vice versa), a reversal may be imminent. Search of a market maximum when the MFI is above the level of 80 or of a market minimum when the MFI is below 20.

POS (Price Oscillator)

An indicator calculated by using a fast and a slow moving average, consequently by tracing the difference between these two values. One analysis method of moving averages is that of studying the relative position of the two means: the faster moving average above the slower moving average determines a positive value of the price oscillator, providing a very bullish signal; vice versa, the faster average under the slow one, generates a negative value, providing a bearish signal.

RSI - Relative Strength Indicator

It was introduced for the first time by Welles; the name "Relative Strength Index" is slightly misleading as the RSI does not compare the relative strength of two financial instruments, but rather the internal strength of a single financial instrument. A more appropriate name might be "Internal Strength Index". The relative strength charts compare two market indices, and are often referred to as Comparative Relative Strength.

When Wilder introduced the RSI, he recommended using a 14-day RSI. Since then, 9 and 25-day RSIs have become increasingly popular. As you can change the number of time periods in the RSI calculation, it is recommended that each investor should find the time span which works best for him (the lower the number of days used, the more volatile the indicator).

RSI is a price-following oscillator which moves within a range between 0 and 100. A popular method of RSI analysis is to look for a divergence where the financial instrument is touching a new high, but fails to go beyond its previous high. This divergence is an indication of an impending reversal. When the RSI turns around and falls below its most recent low, it is said to have completed a "failure swing". The failure swing is considered a confirmation of an impending reversal.

In his book, Wilder discusses 5 methods for using the RSI:

Maximums and minimums. The RSI usually reaches maximums above 70 and minimums under 30 and does so before the underlying price chart does. Chart configurations. The RSI often forms shapes such as a head and shoulders or triangles which may or may not be visible on the price chart.

Failure Swings (also known as penetration or rupture of a support or resistance): this occurs when the RSI moves beyond a previous high or falls below a recent low.

Support and Resistance. The RSI shows, sometimes more clearly than price, the support and resistance levels.

Divergences occur when the price reaches a new high (or low) which is not confirmed by a new high (or low) in the RSI. Prices usually correct automatically and move in the direction of the RSI.

Stochastic oscillator

It compares the closing price of the financial instrument with the range of prices in the time span considered. The Stochastic Oscillator is represented by two lines. The main line is called "%K". The second line is called "%D" and is a moving average of %K. The %K line is usually represented with a solid line and the %D line with a dashed or dotted line.

There are several ways to interpret a Stochastic Oscillator. The three most popular methods are:

Buy when the Oscillator (either %K or %D) falls below a specific level (e.g. 20) and then rises above that level. Sell when the Oscillator rises above a specific level (e.g. 80) and then falls below that level. Buy when the %K line rises above the %D line and sell when the %K line falls below the %D line. Look for divergences. For example, when the price marks a series of new highs and the Stochastic Oscillator fails to surpass its previous highs. Example: You have a buy signal when the %K line falls below and when it rises above the level of 20. Similarly, you have a sell signal when the %K line rises above and then falls below the level of 80.

The Stochastic Oscillator moves within a range between 0% and 100%. A reading of 0% shows that the closing of the financial instrument was the minimum price that the financial instrument reached during the previous x-periods. A reading of 100% shows that the closing of the financial instrument was the maximum price which the financial instrument reached in the previous x-periods.

WILLIAM'S % R

Momentum indicator that measures the levels of overbought/oversold. William's % R was developed by Larry Williams. The interpretation of William's %R is far more similar to the Stochastic Oscillator except that %R is plotted upside down and the Stochastic Oscillator has an internal damping factor. To represent William's %R indicator on an inverted scale, it is usual to multiply it by a negative value (e.g. -20). For the purposes of analysis, negative values are ignored. If the financial instrument is in a range between 80 and 100% then it is oversold, while if it is located within the range between 0 and 20% it is overbought. As with all overbought/oversold indicators, it is best to wait for the financial instrument's price to change direction before trading. For example, if an overbought / oversold indicator (such as the Stochastic Oscillator or the William's % R) is in an overbought condition, it is wise to wait until the price of the financial instrument moves directly down before selling it. (The MACD is a good indicator to monitor changes in the price of a financial instrument). It is not unusual for overbought / oversold indicators to remain for a long time in an overbought/oversold state when the financial instrument's price continues to climb/descend. Selling simply because the financial instrument appears overbought may make you close the position long before its price gives signs of impairment.

An interesting phenomenon regarding the %R is its considerable ability to anticipate price reversals of the underlying financial instrument. The indicator almost always reaches a maximum and then falls.

Likewise, the %R usually reaches a minimum point and turns around a few days before the financial instrument's price rises.

Cycle Measure

An oscillator invented by John Ehlers for measuring the period of a financial instrument.

Ekam

An oscillator which indicates the distance between the price and a moving average, measured in relation to the standard deviation. The distance is divided by "3" and multiplied by "245". Since 99% of the values falls within "3" standard deviations, the chart tends to oscillate between +245 and -245.

This oscillator is therefore similar to the CCI, from which it differs for the reduced tendency to generate spikes.

Ergodic

An indicator created by William Blau, aimed at setting out the momentum of a financial instrument, filtering false signals as much as possible.

Phase Oscillator

This indicator created by John Ehlers, displays the "phase" of a financial instrument. A full discussion is presented in the November 1996 issue of Stocks & Commodities magazine.

Reverse Engineering OSC

An oscillator that clearly identifies the short-term overbought and oversold levels.

R – Squared

This oscillator is the result in code of the indicator described by Jon Andersen in the article "Standard Error Bands", published in September 1996 in Stocks & Commodities. The higher the indicator-s value, the greater the likelihood that the market is in a trending phase.

Saitta Trend

An indicator whose value has a tendency to grow during trend phases, and to wane during congestion phases.

Signal to Noise

Signal to Noise is the quality indicator of the trend, described by John Ehlers in the book "Rocket Science for Traders".

Sine

John Ehlers' Sine Wave indicator draws two lines which self-adapt to the oscillation frequency of the financial instrument, and can be used as intersection points of moving averages, in order to determine the market trend phases.

SMI Oscillator

The Oscillator invented by William Blau to highlight the trend of a financial instrument, purged from long-term movements. If the indicator rises, it is presumably appropriate to open bullish positions, and vice versa.

TA Stochastic

This is a "momentum crossover" system with a filter similar to the stochastic one. The two horizontal lines indicate the overbought and oversold levels.

Trend Area

This indicator seeks to highlight market phases through a complete reading of the trend phases. The integral part corresponds to the subtended area of a chart and in this case it is reset when the trend reverses.

Trix

This oscillator was discussed in the June 1997 edition of Stock & Commodities. Basically it is a momentum indicator, which provides operating signals linked to the crossing of the horizontal line of the "zero".

When the TRIX (red line) crosses its moving average (blue line) from below, it can trigger a buy signal.

Conversely, when the TRIX (red line) crosses its moving average (blue line) from above, it can trigger a sell signal.

The TRIX is an indicator which supplies interesting signals in a trend market.

Chande's Mid Point Oscillator

This is an overbought / oversold indicator.

The oscillator is normalised and ranges on a scale between 100 to -100, with the overbought line equal to +70 and the oversold line equal to -70.

However, for a more detailed analysis, it is preferable to wait for a change in the price direction which can be revealed, for example, by the MACD, before you buy or sell.

The oscillator's formula is as follows:

$\%M = 100 * (C - \text{Midpoint of range}) / \text{Half the range}$, where:

C = current close

Midpoint of range = $(\text{highest high of the period} + \text{lowest low of the period}) / 2$
 Half the range = $(\text{Highest high of the period} - \text{Lowest low of the period}) / 2$

Chande's momentum oscillator

A pure momentum oscillator. This indicator is range bounded between -100 and +100. The security is deemed to be overbought when it is on the threshold of +70, and conversely, when the indicator is on the threshold of -70, it is oversold. The market momentum is indicated with a continuous line at 0.

You have a bullish divergence when the price makes a new low while the indicator remains below its previous low.

You get a bearish divergence when the price makes a new high and the indicator remains below its previous high.

Chaikin Money flow

This indicator is used to calculate the sellers' and buyers' pressure on the basis of the closure position compared with the maximum and the minimum. The net market must be indicated by a solid line at level 0.

When the money flow remains largely above 0, it indicates a buying pressure and vice versa. This indicator can be used starting from the divergences.

A bearish reversal may flash when a bearish divergence appears. It is obtained when the price curve reaches a new high, while the indicator remains below its previous highest point.

A bullish reversal may take place when a bullish divergence appears. This is obtained when the price curve makes a new low point, while the indicator remains above its previous lowest point.

4c. Separate indicators

Volume

It is simply the number of shares (or contracts) traded during a specific time span (e.g., hour, day, week, month, etc.). The analysis of the volume is a very important element of technical analysis and provides an indication of the intensity of a given price movement.

Low Volume levels are characteristic of indecisive expectations which typically occur during consolidation periods (e.g. periods where prices move sideways within a trading range). Reduced volumes often occur during periods of indecision such as market minimums.

High Volume levels characterise market highs where there is a strong consensus that the price will go even higher. High volumes are also very common at the beginning of a new trend (e.g. when the prices come out of a trading range). Just before the market's minimum, the Volume will often grow due to panic selling. Volume can help you determine the strength of a current trend. A strong upward trend has higher volumes on the ascending portion of the trend and lower volumes on the downward portion (corrective). A strong downtrend usually has higher volumes on the descending portion of the trend and lower volumes on the ascending portion (corrective).

MACD

It stands for Moving Average Convergent / Divergent and is a trend following momentum indicator that shows the relationship between two price moving averages.

The MACD, developed by Gerald Appel, is the difference between an exponential 26-day and a 12-day moving average. A 9-day exponential moving average, called the "signal" (or "trigger") line is drawn on top of the MACD to represent the buy/sell opportunities. MACD is most effective in markets with large oscillatory movements and it can be used in 3 ways: crossover, as an overbought/oversold level, and divergences.

Crossover

The basic rule of the MACD is to sell when the MACD falls below its signal line. Similarly, a buy signal occurs when the MACD rises above its signal line. You can also buy / sell when the MACD goes above / below zero.

Overbought/oversold level

The MACD is also useful as an overbought / oversold indicator. If the shorter moving average pulls away strongly from the longer moving average (i.e., the MACD rises), it is likely that the price of the financial instrument is overbought and will soon return to more realistic levels. The MACD which identifies the levels of overbought / oversold varies from one financial instrument to another

Divergences

A bearish divergence occurs when the MACD lows are rising while the price lows are going down. A bullish divergence occurs when the MACD highs are rising while prices are falling. Both these divergences are most significant when they occur in relation to overbought/oversold levels.

You have a buy signal when the MACD exceeds its signal line and a sell signal when the MACD falls below its signal line.

The MACD is calculated by subtracting the value of the exponential 26-day moving average from the 12-day exponential moving average.

A 9-day exponential moving average is then drawn on the MACD. The difference between the MACD and the - MACD Line is represented by a histogram.

MA Spread

It is an indicator of the spread between 2 moving averages, expressed as a percentage in relation to the maximum spread which occurred during a predetermined data period. When the spread is lower than -90 or greater than +90, it turns blue to indicate the possibility of a correction.

Average True Range.

It measures volatility and was introduced by Welles Wilder. Wilder found that you have high ATR values when the market falls following a sales "panic". Low Average True Range values occur during prolonged sideways periods, such as those found in market tops or after consolidation periods. The Average True Range can be interpreted by using the same techniques used with other volatility indicators.

%BB (Percentual Bollinger Bands)

It compares the price of the instrument with the width of the Bollinger band. The calculation method is similar to that of the Stochastic. Values near the lower zone are classified as oversold, conversely the opposite.

Volatility

Volatility represents the degree of change in prices of a financial asset over a given period of time. High volatility values indicate a greater degree of variability in the average investment return and therefore, from a forecasting point of view, a greater uncertainty about its outcome.

T&M Volatility

It is a volatility indicator conceived by Stuart Belknap and described in the May 2003 edition of Stock & Commodities.

Volatility Quality

The "Volatility Quality Index" was devised by Thomas Stridsman and is used to identify the best trading opportunities distinguishing between good and bad volatility. The higher its value, the better the quality.

ROC (Rate of Change)

It calculates the percentage change between the closing of each bar and the closing of the previous bars. The ratio between current prices and previous prices, leads to greater clarity on the strength of the trend and possible trend reversals.

The indicator can also be helpful in identifying oversold and overbought conditions when heightened variations occur.

Momentum

It measures the change in price of a financial instrument over a given time span.

The interpretation of the Momentum is identical to that of the ROC. Both indicators measure the change rate of the financial instrument's price. However, the ROC shows the rate of variation as a percentage, whilst the Momentum as a ratio.

The Momentum can be used as a trend-following oscillator: you have a buy signal when the indicator touches a minimum and turns upwards and a sell signal when the indicator reaches a maximum and turns downwards. If the Momentum reaches extremely high or low values (in relation to its historical values), you should assume that the current trend will continue. For example, if the Momentum reaches extremely high or low values and then turns downwards, you should assume that prices will continue to rise. In both cases, it is better to trade only after the prices confirm the signal generated by the indicator.

The Momentum can also be used as the main indicator. This method envisages that market highs should typically be identified by a rapid rise in prices (when everyone expects prices to continue to rise) and that market lows should end with a rapid fall in prices (when everyone wants to get out). This is often the case, but it is also a big generalisation.

When the market reaches its maximum, the Momentum indicator will climb sharply and then fall diverging from the upward or oblique price movement. Similarly, when the market is at a minimum, the Momentum will drop sharply and then begin to rise. Both these situations result in a divergence between the indicator and the prices.

Bull and Bear

It highlights the upward and downward forces on the market.

Instant trend

An indicator based on two non-linear Ehlers filters, calibrated on two different time frames (short and medium term). It gives you similar information to that based on the intersection of two moving averages, but with less sensitivity to spurious movements in the market.

MFI Conv/Div

This oscillator is an average of the Money Flow Index MACD. The red line represents the signal, which is bullish when it becomes positive, and bearish when it goes down below zero. The blue line represents the difference between the Money Flow Index MACD and its moving average.

RMI Indicator

It is a smoother version of the RSI (Relative Strength Index).

RVI (Relative Vigor Index)

This technical analysis indicator of Relative Vigour Index (RVI) was introduced in 2002 in an article entitled "Something Old, Something New - Relative Vigour Index (RVI)" by John Ehlers. The indicator can be used in a similar way at the intersection of two moving averages, to determine the market trend phases.

True Strength

This indicator was designed to highlight the strength of a financial instrument, eliminating any of its spurious movements. Should the trend indicator rise then it is positive and vice versa when its value falls.

On Balance Volume ("OBV")

It was developed by Joe Granville and is a momentum indicator which correlates volume and price change.

The On Balance Volume indicator is the cumulative sum of the volume. It shows if the volume is flowing or if it is leaving the financial instrument. When the financial instrument closes higher than the previous close, the whole volume of the day is considered a growing volume. When the financial instrument closes lower than the previous day, the whole volume of the day is considered a decreasing volume.

OBV's basic assumption is that OBV changes anticipate price changes. The theory is that strong investors enter (accumulation phase) or leave (distribution phase) from the market prior to the mass of investors. When investors converge on the financial instrument, both the financial instrument and the OBV take a leap forward.

If the movement in price of the financial instrument anticipates the OBV movement, there is a "non-confirmation". A "non-confirmation" can occur on the high of a bull market (when the financial instrument rises before the OBV or without the OBV rising) or on the low of a bear market (when the financial instrument falls without, or before the OBV).

The OBV trend increases when every new high is greater than the previous one and each new low is smaller than the previous one. Similarly, the trend is bearish when each next high is lower than the previous one and each next low is lower than the previous one. When the OBV is moving sideways and is not making any further highs and lows, the trend is uncertain. [See Figure below]

Once a trend has stabilised, it remains in place until it is broken. There are two ways in which the OBV may be broken: the first occurs when the trend changes from bullish to bearish or from bearish to bullish.

The second way is if the trend changes to an uncertain trend and remains as such for more than three days. Therefore, should the financial instrument change from a rising trend to an uncertain one and remain so for only two days before returning back to a bullish trend, the OBV's trend is considered to have always been a growing one.

When the OBV changes to a bullish or bearish trend, there has been a break. When the OBV undergoes a break, normally it precedes a price break, investors should open long positions on OBV breaks at the top. Likewise,

investors should short sell when the OBV breaks in the lower part. The positions should be maintained until the trend changes (as explained above).

This method of OBV analysis is defined for short term trading cycles. According to Granville, investors should act quickly and decisively if they wish to benefit from the short-term analysis of the OBV.

Volume Average indicates the average value of the trades.

Volume Oscillator

It represents the difference between two exponential moving averages of the financial instrument's volume. The difference between the moving averages can be expressed both in terms of points and of percentages.

You can use the difference between two volume mobile averages in order to determine whether the overall volume trend is increasing or decreasing. When the Volume Oscillator grows above zero, it means that the moving average of the short term volume is positioned above the long term moving average, therefore the short term trend volume is set upwards more than the long one.

There are different ways to interpret changes in volume trends. A common belief is that when you have bullish prices with an increasing volume and bearish prices with a declining volume, the market is bullish. Conversely, if the volume increases when prices fall, and decreases when prices rise, the market is showing signs of weakness. The underlying theory is as follows. Rising prices associated with rising volumes indicate a growing participation of buyers (more buyers) which could lead to a continuation of the movement taking place. On the contrary, decreasing prices with increases in volume (more sellers) means buyers are diminishing.

Commodity Channel Index

It measures the change in price of the financial instrument from its statistical average. High values show that prices are unusually high when compared with average prices, whereas low values indicate that prices are unusually low. Unlike its name, the CCI can be used on any type of financial instrument, and not only on commodities. The CCI was developed by Donald Lambert.

There are two methods of interpreting the CCI: in order to identify divergences (prices are reaching a new high while the CCI falls intersecting the prices of the security, this divergence is usually followed by a correction), and as an indicator of overbought/oversold (the CCI fluctuates around 100). You have signs of overbought above 100, imminent price correction, and oversold below -100, imminent rally.

Price Oscillator

The Price Oscillator expresses the difference between the price and its 50-day simple moving average. The indicator oscillates around the zero line, which represents the moment of intersection between the price and the moving average.

In the chart, there are two horizontal dashed parallel lines indicated which detect levels outside of which, historically, there have been the situations of excess (upper zone or overbought and lower zone or oversold).

Divergent trends from price ones, particularly if the Price Oscillator is positioned in the excess area, anticipate trend reversals.

Bandwidth

An indicator directly derived from the Bollinger Bands, which measures their amplitude, with the goal of identifying volatility cycles and particular compression situations which could give rise to trend explosions.

The constructive formula is as follows: $(\text{Upper Band} - \text{Lower Band}) / \text{Middle Band}$

Chande's Aroon indicator

The Aroon indicator was developed by Tushar Chande; "Aroon" is a Sanskrit word meaning "first light", i.e. threshold, the moment of transition between night and day. The objective of this indicator is to identify the moment of transition from a sideways stage of the market to a trend stage and vice versa.

Usually indicators - and in particular oscillators - measure the behaviour of price in relation to time, as occurs for example in the case of the Rate of Change (ROC). The Aroon indicator, instead, works exactly in the opposite way, measuring the passage of time in relation to a certain price level. The objective of this indicator is to identify the moment of transition from a sideways stage of the market to a trend stage and vice versa

Chaikin's Volatility

Chaikin's Volatility is obtained by calculating the exponential moving average of the difference between the high and the low of the day, and calculating the variation percentage of this moving average. The parameters are the number of days taken into consideration in order to calculate the moving average and the rate of change.

Chaikin's Volatility compares the spread between the highest and the lowest price of a security. A high volatility indicates the maturity of a peak and a low volatility represents a basic level.

4d. Overlapping indicators

Bollinger Bands

Similar to the envelope mobile averages. The difference between Bollinger Bands and envelopes is that the latter are drawn above and below the moving average of a fixed percentage, while the Bollinger Bands are drawn above and below the moving average based on the standard deviation level. Since standard deviation is a volatility measurement, the bands have become self-adaptive: the amplitude increases during very volatile market phases and contracts during periods of contained price variations. Bollinger Bands are usually drawn on the price of the financial instrument, but they can also be drawn on an indicator. The comments below refer to bands positioned on prices.

As for envelopes, the basic interpretation of Bollinger Bands is that prices are positioned between the upper and lower band. The distinctive characteristic of Bollinger Bands is that the spaces between one band and another vary in relation to price volatility. During periods of extremely variable prices (e.g. high volatility), the bands widen. During periods of depressed prices (e.g. low volatility), the bands contract to contain prices. Mr. Bollinger identified the following characteristics of Bollinger Bands. Significant price variations are observed after the Bands contract because volatility decreases. When prices move outside the band, the continuation of the current trend is implied. Highs and lows registered outside the bands followed by highs and lows within the bands indicate a trend reversal. A movement that begins with a band and goes up to the other band is useful to identify target prices.

Bollinger Bands are drawn as three bands. The middle band is a simple moving average. In the following formula, "n" is the number of time frames (e.g. 20 days) on which the moving average is calculated.

The upper band is similar to the middle band, but the number of the standard deviation is added. In the next formula, "D" is the number of the standard deviation.

The lower band is obtained by subtracting the same number of the standard deviation from the moving average.

Bollinger recommends using "20" for the number of time frames of the moving average, to calculate the moving average using the "easy" method and to use 2 for the number of the standard deviation. Bollinger also found out that the calculation of a 10-period moving average is not very effective.

Parabolic SAR

The parabolic time/price system, developed by Welles Wilder, is used to identify trailing stops and is called "SAR" (stop-and-reversal).

The Parabolic SAR provides excellent exit points from the market. Long positions could be closed when the price falls below the SAR, and short positions closed when the price rises above the SAR.

In case of a long position (e.g. the price is above the SAR), the SAR will grow every day, regardless of the price's direction. The amount of the increasing SAR depends on the amount of the price.

A long position should be adopted when the SAR is below the price and a short position when it is above the price.

The concept is inspired by the idea that time is the enemy, and unless trading continues to generate profits over time, it should be liquidated. Consequently, the Time/Parabolic Price strategy drives the trend until the SAR level is penetrated. Then the current position must be closed and a reverse position must be opened (the Stop And Reverse name derives from this concept).

The expression "Parabolic" derives from the shape of the curve that the stops create when trading signs appear on the chart. To calculate the function, you must first find an extreme reversal point. On long positions, this price is usually the lowest recorded during the previous short position which was closed. On a short position, the extreme price is usually the highest recorded during the previous long position which was closed. In practice, there will be no point of extreme inversion for the first transaction when there were no previous transactions. To give an explanation to this, the function uses the high and low of the previous bar (depending on whether the position is long or short) before the first operation. For long-term sales and short-term purchases, from the second day onwards, the SAR is adjusted as follows:

$$\text{SAR}_b = \text{SAR}_p + \text{AF}(\text{H} - \text{SAR}_p)$$

$$\text{SAR}_s = \text{SAR}_p + \text{AF}(\text{L} - \text{SAR}_p)$$

where

SARb is the stop price of a long position at which one sells and a short one is opened.

SARs is the buy stop of a short position where you close the short position and open a long one.

SARp is the SAR of the previous bar.

AF is an acceleration factor which begins from .02 for the next bar at the moment when the buy stop signals to open a long position; subsequently it is increased by .02 as the price reaches a new high (H) since the long position in place was opened.

If during the long operation the price does not record a new high, AF is left unchanged at the level of the previous period.

H is the new high from when the long position in place was opened following the buy stop indication

L is the new low from when the ongoing short position was opened following the sell stop indication.. The value provided by the parabolic function is the SAR value described above.

Keltner Channel

Keltner Channels are part of the same class as the Ralph Channel, the Standard Error Channel, the Bollinger Bands, the Standard Deviation Channel, the Envelope, etc.

Its formula is given by an exponential 39-period MA, to which two outer bands are added calculated on the volatility of the bars multiplied by 1.618 (important Fibonacci number). This is the option to build the channel represented here, since originally the parameters were different and used essentially for short-term trading. Over time, while attributing to this indicator the name of Keltner, several changes have been made to the original formula.

The idea of this indicator is to use the channel as a gauge of volatility, and every time that prices will move outside the channel, there is a good chance that they will fall into a trend. Rebounds of a technical nature often run out on one of the three containment bands, basically the first or the second one. Crossing the third band, after a long period, announces the reversal of the primary trend.

The instrument is mainly used for trend-following strategies, since the movement of prices out of the channel, upwards or downwards, creates the possibility that the market is beginning or continuing a well-defined trend movement.

Volatility Stops

This indicator seeks to identify the Stop & Reverse points on the basis on the volatility of the financial instrument. Its uses are quite similar to the common Parabolic SAR indicator.

Swing Wave

This indicator identifies Stop & Reverse levels, which can be used in a manner similar to those obtainable with the most classic Parabolic SAR.

Pivot Trading Levels

The Pivot Trading Levels are a series of horizontal lines which indicate the levels of support and resistance in the chart.

As in the Quadrant Lines, the Pivot levels help you identify potential levels of support and resistance based on a price range over a given period. You may acquire this visually from the chart.

IntraHL

The constructed channel identifies the maximum high and minimum low, within a given range of data.

RSI Pivot

An indicator which automatically calculates Pivot levels; it can be used to create "counter-trend" strategies.

Swing Trendline

This indicator seeks to track automatic running trendlines.

Vima

The Interval Variable Moving Average is a special version of moving averages designed by R. G. Boomer. In normal moving averages, the user must set the time range on which to perform the calculation. The VIMA are averages which tend to vary their reactivity on the basis of the movements of the financial instrument.

Alligator

The Alligator indicator is a tool used in technical analysis to interpret signals from different mobile averages.

The alligator is so named for its shape, in fact, it consists of three lines representing the parts of the alligator's mouth.

The first line, usually blue, is the alligator's jaw. It is calculated as a 13-period smoothed moving average. Furthermore, the line is shifted forwards by 8 bars (towards the future).

The second line, usually red, is the alligator teeth; it is the balancing line calculated as an 8-period smoothed moving average. Furthermore, the line is shifted forwards by 5 bars (towards the future).

The third line, usually green, represents the alligator's lips; it is the balancing line calculated as a 5-period smoothed moving average. Furthermore, the line is shifted forwards by 3 bars (towards the future).

When the lines are intertwined with each other, this means that the alligator is sleeping; the more it sleeps, the hungrier it will be when it wakes up.

When it wakes up, it is very hungry, so first it opens its mouth, its jaw and starts chasing the food (i.e. the price), until it eats it.

After having eaten plenty, the alligator loses interest in food, therefore the balancing lines come together.

This is a good time to take profit, close all open positions until the alligator does not wake up again.

Supertrend

The SuperTrend indicator was developed by Oliver Seban. This indicator has the great advantage of running on all time frames and on all supports. It can be used on shares, futures or forex, both with 5-minute and weekly timeframes. It is used in particular to accompany trends and optimise output.

The Supertrend evolves above or below the prices and is linked to the type of trend. It especially uses the closure of the day to filter out false signals which can appear during trendless periods. The Supertrend is calculated from a coefficient applied to the average volatility of the last candles (or bars according to the selected type of chart). Normally, the coefficients 3 and 10 are used as multiplier and the number of bars.

Identical to Wilder's SAR, the Supertrend follows prices as a stop (using calculations most suitable for volatility) with the difference that it does not change the values in trendless periods. This allows for more space and time for the price to enter the trend and discover the most important movements. In general, when the signal is interpreted as good then it is a bullish signal when the Supertrend is under the price and bearish when the Supertrend is higher than the price.

Donchian channels

They represent a very simple trend following breakout system for commodities and futures, and are successfully applied to stock analysis as well.

Donchian channels are constituted by two outer bands, upper and lower, and by an intermediate line, obtained as the average value of the two values constituting the outer bands.

The upper band of Donchian channels is constituted by the higher closing price recorded in the last 20 periods.

The lower band is built with the same logic but orientated to the lows; in fact it uses the closure (or the minimum) price with the lowest value recorded in the last 20 periods.

Because of their conformation, Donchian channels work well in trending markets, but not in sideways markets. The signals are the result of a few basic rules: when the price touches or exceeds the upper band of the channel it generates the buy signal; when the price touches or exceeds downwards the channel's lower band it generates the sell signal.

4.g. Advanced Studies

Momentun Inc. Dec.

Period (default = 5)

It specifies the length on which the indicator value is calculated.

Moving Averages Intersection Point

Short (default = 9)

It specifies the length on which the fast moving average is calculated.

Long (default = 18)

It specifies the length on which the slow moving average is calculated.

Reversal points

The indicator identifies the highs and lows of the cycle, and displays them by drawing blue or red dots.

The purpose of this study is to enable the user to identify the market cycles, to understand if they are tradable and see if your strategy is in sync with the timing of the instrument.

As the aim is to have reliable clues and not anticipate the market, reversal points are usually drawn with a delay of about one cycle compared to the last available bar.

The green circles instead provide more readily available information about possible reversal points, but must then be confirmed by subsequent price changes.

TPL: Volatility

A template consisting of a bar chart which includes the following indicators:

Overlapping indicators: Bollinger Bands

Separate indicators: Bollinger Percent, Average True Range

TPL: Volume

A template consisting of a volume candlestick chart which includes the following indicators:

Separate indicators: On-Balance Volume, Average Volumes

TPL: Momentum

A template consisting of a bar chart which includes the following indicators:

Overlapping indicators: Keltner Channel

Separate indicators: Slow Stochastic, Momentum

TPL: Trend

A template consisting of a candlestick chart which includes the following indicators:

Overlapping indicators: Envelope Moving Averages

Separate indicators: MACD, ADX

4.h.Other filters

Linear regression

An indicator based on the price trend of the financial instrument over a specific time span. The trend is determined by calculating the linear regression line with the least squares method. The least squares technique makes the data in the chart correspond to a trendline by minimizing the distance between them (represented by dots), and the linear regression trendline.

Any point along the Linear Regression indicator is equal to the final value of the Linear Regression trendline.

For example, the final value of a 10-day Linear Regression trendline will have the same value of a 10-day Linear Regression indicator.

Distance Coefficient

It belongs to the category of Ehlers' non-linear filters. It is used, as the moving averages, to identify the trend of a financial instrument, filtering as much as possible price spikes, though introducing a time delay compared to the original layout.

Compared to moving averages, Ehlers' non-linear filter can filter out price spikes better, by introducing lower time delays.

IE2

Indicator similar to a moving average, created by Tim Tillson. It has an intermediate behaviour between the gradient integral of a regression line (ILRS) and the moving average of the end point (EPMA).

NLR

It uses a non-linear regression analysis to estimate a curve through a set of data. The use is similar to that of moving averages.

Nonlinear Filter

It identifies the trend of a financial instrument, filtering as much as possible price spikes, though introducing a time delay compared to the original layout.

Compared to moving averages, Ehlers' non-linear filter can filter out price spikes better, by introducing lower time delays.

Optimal Tracking

This indicator was created by John Ehlers, and is a moving average modified version, which was created with the aim of being more responsive to the price movements of the financial instrument, while maintaining a more rounded performance.

T3

This indicator created by Tim Tillson, is similar to a moving average, but it differs because it can smooth out the price trend by introducing a delay lower than that of Moving Averages.

Tether Line

This is a "momentum crossover" system with a filter similar to the stochastic one. The two horizontal lines indicate the overbought and oversold levels.

Zig Zag


The Zig Zag indicator calculates a broken line which swings between the highs and lows concerning a financial instrument. The indicator is useful as a support for tracking trendlines and critical price levels.

5. Chart trading

General description

Chart trading is the advanced system which allows you to enter, modify and cancel orders of all financial instruments, with a simple click of the right mouse button directly from the chart, in order to be able to follow market trends with the maximum speed and immediacy, while controlling directly on the chart both your orders and the movements of the instruments.



An icon has been added to the charts in the top left corner, , off by default, which allows you to view all orders placed and executed during the day and to place orders directly from the chart.

After activating the chart trading, all the other features of the chart remain active except for those activated with the right mouse button (e.g. changing the parameters of the elements of the chart, the size of the trend line, the candlestick colours, the graphic background, etc.) in fact you will use the right button to open your order entry window.

Therefore, to change the characteristics of the candlesticks or trend lines, if you have any on the chart, you will need to disable the chart trading button.

To support chart trading, a new cursor called "horizontal line" has been added in the icon in the top left where the cursors are selected; you can use it to light up the price of the security on the horizontal axis, thereby facilitating your order entry.

This cursor will be active by default at the chart trading's activation, but it may be modified or disabled at any time.

5.a. Entering an order

By placing the cursor on the chart, at any price and by clicking the right mouse button once, the order entry pop up will appear.

Should you click the right mouse button multiple times, a single order entry pop up will be displayed at a time.




The pop up, which replicates the Order entry, allows you to set the order, choosing between the different types of operations, the quantity (based on the settings saved in your favourites) and to choose the price. For the latter, in

order to speed up sending the order, the price shown on the ordinate and highlighted by the cursor, will be the price of the order and it will be displayed by default in the pop up.

N.B.: Should the chosen price not correspond to a multiple of the minimum tick, the pop up will display the price adjusted to the security's minimum tick.

5.b. Order display

Once you have confirmed the order, the pop-up will disappear and a line and a label will appear on the chart with different colours according to the information provided by the market concerning the execution status of the order at that point in time. The colours of the horizontal lines and labels will keep the same logic of the Monitor Orders:

- green for Entered 
- blue for Executed 
- yellow for Partially Executed 

Furthermore, if the order has been executed, the straight line will be continuous, while it will be dashed in case of orders entered and executed partially.

N.B. for margin trading on futures and forex, Fineco's automatic Stop Loss will be displayed with a grey label, indicating the price, coupled with a continuous line.

Note: Cancelled, rejected, queued or to be queued orders will not be displayed on the chart.

The labels, besides indicating the status of the order, contain the identification data of the order with the specific instructions regarding the type of operation you have chosen.

For ordinary operation, the data displayed will be:

- Order entered:

A green dashed line will appear where you entered the price and in the green label there will also be the parameters of the order displayed:

- > **"ORD"**: indicates an ordinary type of operation
- > **"B/S"**: indicates whether the order is Buy or Sell.
- > **"ENT.Q"**: quantity entered in the order.
- > **"ENT.P"**: price entered in the order.
- > **"X"** key to cancel the order

The executed price may be different from the entered price, in this case once the order has been executed the line will move from the entered level to the executed one.

If the order is executed in several tranches at different prices, the blue line and the label will be placed on the average carrying value in the order screen.

- Executed Order

A blue continuous line will appear by the executed price, the parameters of the order will be indicated on the label:

- > **"ORD"**: indicates an ordinary type of operation
- > **"B/S"**: indicates whether the order is Buy or Sell.
- > **"EXE.Q"**: executed quantity of the order.
- > **"EXE.P"**: executed price of the order.

For executed orders, in addition to the horizontal line, a small arrow will appear to indicate the candlestick in which the order has been executed, so as to allow the customer to view both the price level, but also the estimated time. The arrow appears only in case of an order executed totally.

Green arrow pointing up -> buy Red arrow

pointing down -> sell

- Partially executed order:

In case of a partially executed order (PFILL), the dashed line will remain at the entered price, but it will become yellow.

On the left label you will see the remaining amount of securities entered which will certainly be lower than the initial amount you entered.

The dashed line will remain positioned on the price level entered until the order is executed totally (or deleted for the part already entered).

- > **"ORD"**: indicates an ordinary type of operation
- > **"B/S"**: indicates whether the order is Buy or Sell.
- > **"Q."** > **"ENT.P."**: amounts not yet executed of the order entered.
- > **"ENT.P"**: price entered in the order.

> “X” key to cancel the part of the order not yet executed

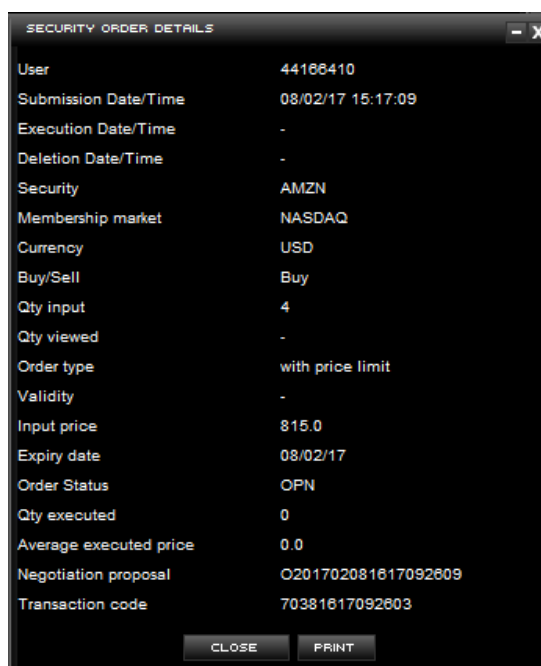
Note: With chart trading you can neither set (nor view on the chart) any Stop loss, Take profit or trailing stop on the positions or individual orders which form them. Such orders can only be set from the order Screen, from the Order entry or PowerBook.

5.c. Cancelling an order

To cancel an order from the chart, the order's status must be entered or partially executed. The cancellation is done by clicking on the specific "X" button in the label of the order.

If the order is partially executed, clicking on the “X” button cancels only the non-executed part of the order.

5.d. Details of the order



SECURITY ORDER DETAILS	
User	44166410
Submission Date/Time	08/02/17 15:17:09
Execution Date/Time	-
Deletion Date/Time	-
Security	AMZN
Membership market	NASDAQ
Currency	USD
Buy/Sell	Buy
Qty input	4
Qty viewed	-
Order type	with price limit
Validity	-
Input price	815.0
Expiry date	08/02/17
Order Status	OPN
Qty executed	0
Average executed price	0.0
Negotiation proposal	O201702081617092609
Transaction code	70381617092603

CLOSE PRINT

By clicking on the label, you can view the details of the order, which you can then print to keep.

5.e. Moving the order

With chart trading, you can move orders from one price level (limit price at which the order was entered) to a new price level.

To move the order entered, you must:

- position the mouse on the dotted line or on the label indicating the order entered
- click and hold down the left mouse button
- move the line onto the new desired price level
- release the left button

When you release the left mouse button, a pop up will appear that requires confirmation of the move to a new price level. By confirming, the label of the order entered will disappear and the new label will appear on the new price level. Simultaneously, the order screen will display the cancellation of the previously entered order and entry of the new order.

5.f. Futures and Forex

For futures and forex, the data displayed in the label are:

- Order entered:

- > "IN/OV": indicates if the margin trading is intraday or multiday
- > "B/S": indicates whether the order is Buy or Sell.
- > "ENT.Q.": amounts not yet executed of the order entered.
- > "ENT.P": price entered in the order.
- > "X" key to cancel the order

- Executed Order:

With margin trading, on the labels of all the orders which make up a position, there is a "C" key which allows you to close the position at any time.

- > "IN/OV": indicates if the margin trading is intraday or multiday
- > "B/S": indicates whether the order is Buy or Sell.
- > "EXE.Q": executed quantity of the order.
- > "EXE.P": executed price of the order.
- > "C" key for closing the position

- Partially executed order:

In the label of a partially executed order in margin trading, there is both the "C" key to close the position and the "X" key to cancel the part of the order not yet executed.

- > "IN/OV": indicates if the margin trading is intraday or multiday
- > "B/S": indicates whether the order is Buy or Sell.
- > "EXE.Q": executed quantity of the order.

- > **"EXE.P"**: executed price of the order.
- > **"C"** key for closing the position
- > **"X"** key to cancel the part of the order not yet executed

For margin trading on futures and forex, the automatic Stop Loss will be displayed with a grey label, indicating the price, associated to a continuous line.

Note: for transactions on Forex and derivatives, the labels of the orders entered, executed and partially executed, do not have the C key; you can close the transactions only by entering an order in the opposite direction or, by using the "C" key in the Securities Portfolio.

> Closing a position

By clicking the key "C" in each label of the orders which make up the position, the partial or total position closing pop up will appear.

By filling in the fields and confirming the order, the corresponding label will appear on the chart; when the order is executed all the labels of the orders which make up the position and the Stop loss label will disappear from the chart as well.

In case of the Forex market, when you re-open a previously closed position, you will see the new stop loss and previous orders executed.

Should you have a margin position open, with orders associated with it still entered, and you click the key "C" to close the position (giving closing confirmation) the position resets, but remains open as a result of the orders still entered.

> Trade and Reverse

When a margin position is overturned with a trade and reverse, the label of the first Stop loss in the trading chart is cancelled and a new label appears at the new recalculated stop level.

5.g. View, edit and delete Stop loss, Take profit and Trailing Stop

It is possible to view, edit and delete a Stop loss, Take profit and trailing stop set on the single orders directly on the chart.

By entering orders associated with any stop loss, take profit and trailing stop, all the labels displaying SI / Tp / trailing values will appear on the chart near the order label (on the far right).

The labels will display:

- The type of strategy set: Stop – Take or Trailing
- The set price
- The "x" that automatically erases the single strategy

By clicking the right mouse button, the "stop loss and trailing" popup will appear in the single label which allows you to enter/edit/delete strategies.

Therefore, the strategy may be:

- entered from the order entry or the monitor
- modified by using the icons that open the "stop loss and trailing" pop-up in the order screen or by recovering the same pop-up from the label
- deleted from both the pop up and the "x" positioned on the label



If there are several close orders (based on timeframe or type of operation) on which various strategies were entered, by passing the mouse over the label of the order, you will see the strategy associated with the order itself superimposed.

Should the labels affect the reading of the chart, you can temporarily hide them by clicking on any part of the chart; should you want to see them again, just go over the label of the order with the mouse and they will reappear.

5.h. Overlapping labels

If there are numerous orders on the chart on neighbouring price levels, the labels will overlap.

To highlight orders covered by other labels, the last entered/executed order label will appear in the foreground with the number of the covered orders, for example in the image below you can see the case of 3 neighbouring orders:



When you stay with your mouse over the label, all the labels below will "explode",

5.i. BID/ASK indicator

By activating the chart trading and setting an intraday timeframe, you will view the price on the first bid and ask level directly on the chart.

It is also possible to view the composition of the amounts in the first 5 levels of the book as a histogram. In the picture below, you can see the yellow labels on the right indicating the bid-ask prices, and blue for the last one, next to the graphical display of the amounts in the book.



Should the last price overlap with the bid-ask one, the last price will remain in the foreground.

6. Multicharts

The Multichart mode allows you to choose from a range of chart configurations in order to "keep an eye" on other security charts with greater ease and speed, all in a single popup.



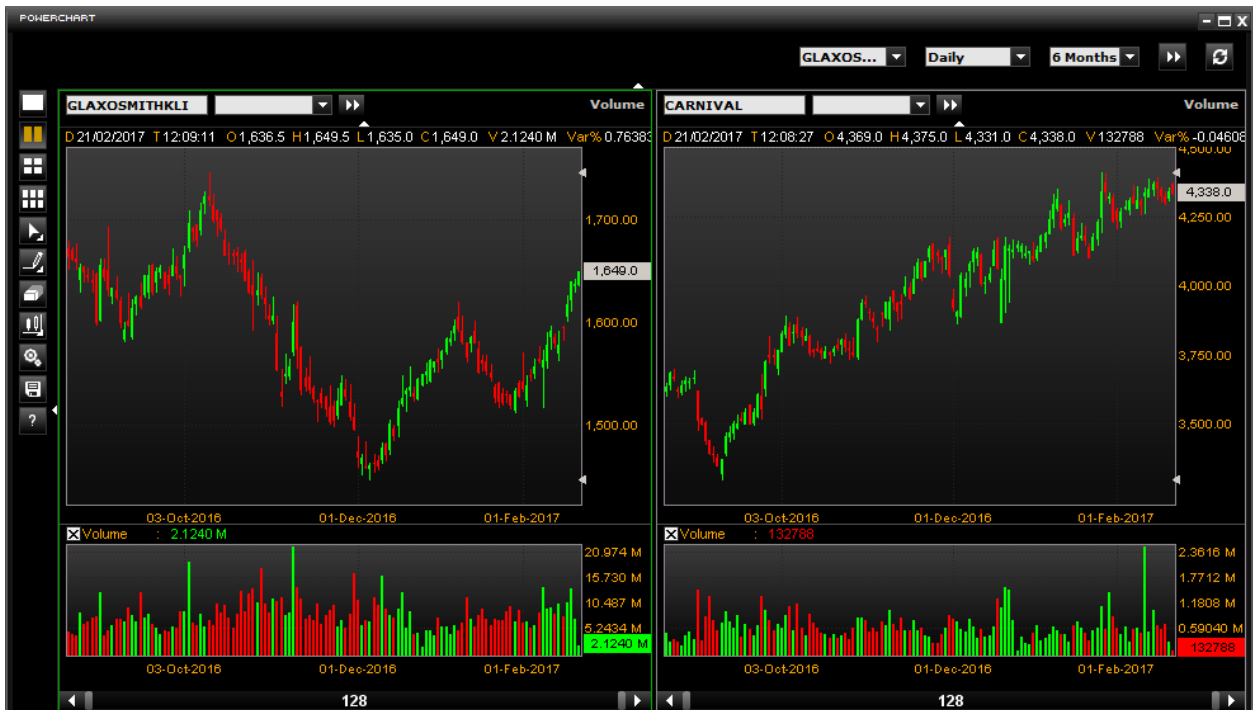
When opening a chart, you will see the "Multichart" icon  which, when clicked, will change the pop up display.

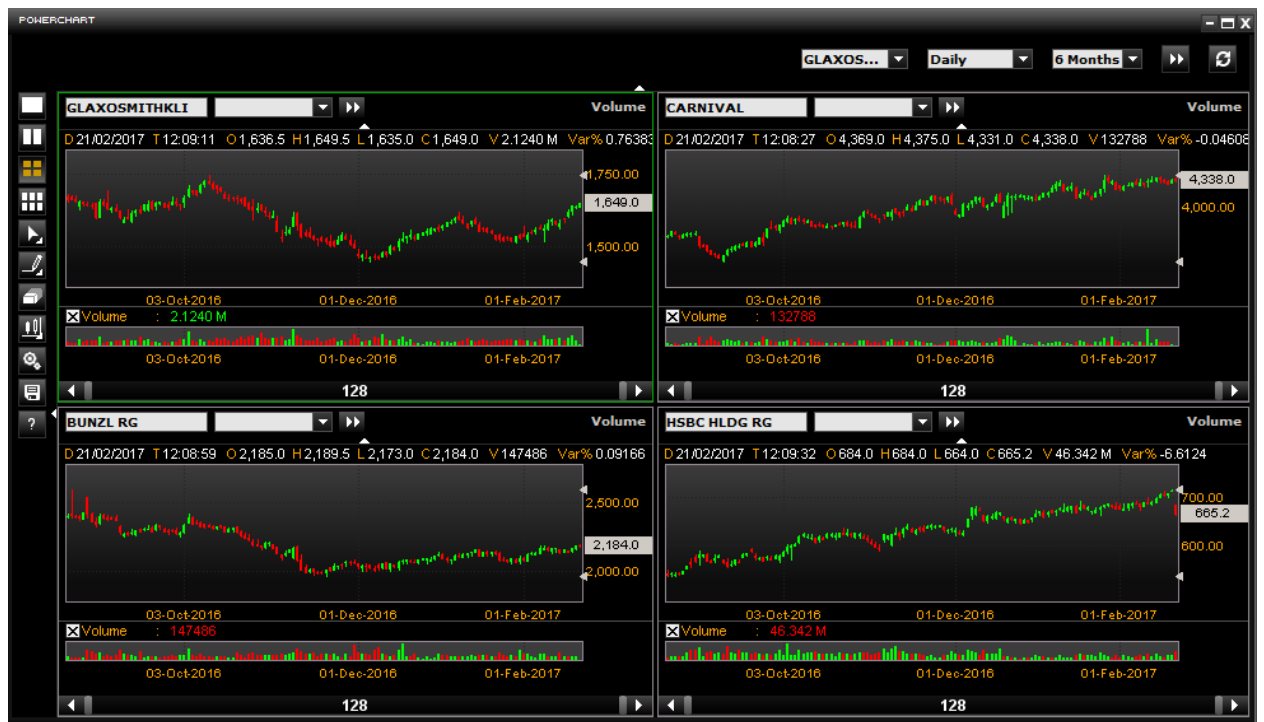
The new popup displayed will be divided into two parts: on the left, you will see the chart of the previously selected security as well as the volumes and the right section which will be initially empty.

In the right section, by entering in the search windows the name or security symbol and selecting the market, you will see the security's chart.

Securities can be entered into the empty sections even with the drag & drop from the security's Watchlist string or from the predefined lists.

You can choose three different contextual configurations: a 2-chart, a 4-chart and a 6-chart layout.





It is possible to expand the chart to full screen, or narrow it down and change the popup for a horizontal or vertical display, simply by dragging the right box frame of the popup. By dragging the box frame, the charts will shrink and they can be aligned horizontally or vertically as you wish:



6.a. Multichart structure

The pop-up which opens at the top has a common bar with the pull-down menu in order to select the chart's time frames and the depth which will be applied equally to all charts.



In the left hand frame, you will see:

- three icons to open the different configurations:




which allows you to view two charts




or to view four charts



or to view 6 charts


- the icon  to change the chart layout (candlestick or linear)


- the icon  «Back to Chart» to return to Powerchart. It allows you to return to the chart of the starting security or the selected chart.

N.B.: If you open a Multichart, the starting X security chart is highlighted with a green frame, should you click on another chart (Y security), the latter will be highlighted, and if you click the icon the Y security chart will then be displayed.

-  refer to the Powerchart manual

-  which opens the Multichart save pop-up

-  to enter trendlines

-  it is the icon that allows you to edit the multichart configuration:
when off (by default) it allows an automatic configuration of the charts. Therefore, all the charts will open with an equal size, and if you drag their box frame they will all expand and shrink.

when clicked (it stays lit) it lets you enlarge and shrink all the charts by simply dragging their frame.

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Volume In addition, you can clear each chart of all Volumes; to restore them, there is the "Volume" link which will light up whenever the volumes are removed from the chart.