MOLANIS STRATEGY BUILDER 3.2
User Manual

How to Contact Molanis

Web: www.molanis.com

Technical Support: support@molanis.com. Currently Molanis offers client support in English, French, and Spanish.

Sales: sales@molanis.com

Need Help? Have Questions?
Ask our Community www.molanis.com/forum our read our FAQ at
http://www.molanis.com/support/faq

Need Examples to start?
Go to http://www.molanis.com/products/molanis-strategy-builder/expert-advisors-for-mt4

Do not miss our video tutorials at www.molanis.com

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Molanis Strategy Builder 3.2

OVERVIEW

Molanis Strategy Builder for MetaTrader provides a highly intuitive graphical environment with a comprehensive set of predefined trading blocks that let you design expert advisors and forex signals in minutes. No coding, programming or MQL knowledge is required.

The click, drag and drop approach of Molanis Strategy Builder allows you to create visual representations of forex trading strategies and signals as you would with pencil and paper. These trading diagrams are analyzed automatically by Molanis' MQL code generator that transforms them into ready to use expert advisors. The interactive graphical environment simplifies the design process and eliminates the need to write MQL code.

> Normally, to create an expert advisor you have two options: 1) You learn MQL4 (MetaQuotes Language Version 4) or in the near future MQL5, and spend a long time writing and reviewing code; 2) You hire a programmer and share your trading ideas.
> Molanis Strategy Builder is the third option. Your best option. It generates all the MQL code for you meaning you can focus solely on the forex strategy and not on the coding.

FEATURES AND BENEFITS

✓ Molanis Strategy Builder is fully based on a visual environment rather than the traditional, time consuming coding process. It allows you to create expert advisors without writing any code.

✓ Reduce the Learning Curve, instead of focusing on learning programming languages like MQL, just focus on your trading ideas.

✓ Molanis Strategy Builder is targeted at non-programmers or programmers that want to dramatically reduce the development time of forex strategies for MetaTrader (Expert Advisors). Building forex strategies with Molanis Strategy Builder is so easy and intuitive that non-programmers can start creating expert advisors in minutes. No programming skills are required.

✓ Easy to understand. Molanis Strategy Builder provides the right balance of common sense visual tools, which will quickly enable anyone to understand any trading diagram in minutes.

✓ Leading Edge Code Generation creates all the MetaTrader variables for you to test and optimize your expert advisor.

✓ Designed to allow expert advisors with multiple currencies and multiple timeframes.

✓ With minimum effort, it can be used to create Forex Signals.

✓ Fast development time. You can build your own expert advisors in minutes.

✓ Keep your trading ideas to yourself. No need to share your knowledge with programmers.

✓ Gives you access to Molanis Online Community, Molanis Forum and free expert advisors.

Molanis Strategy Builder is probably the most advanced graphic environment available today to create expert advisors. With just a few clicks, you can create complex forex trading strategies and transform them into fully functional expert advisors. Whether you are new to forex, a professional trader or a MQL programmer, you can use Molanis Strategy Builder to rapidly develop powerful expert advisors.

10 SECOND USER GUIDE
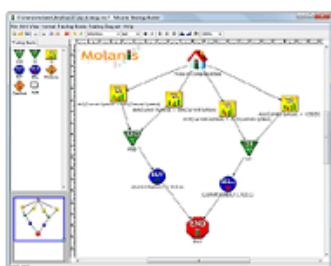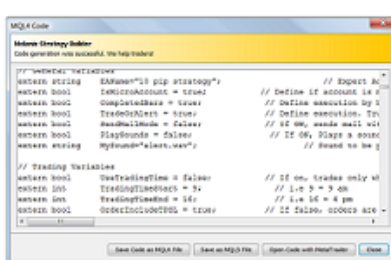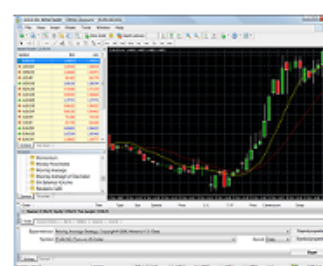
To create an expert advisor for MetaTrader, you need to create a trading diagram:
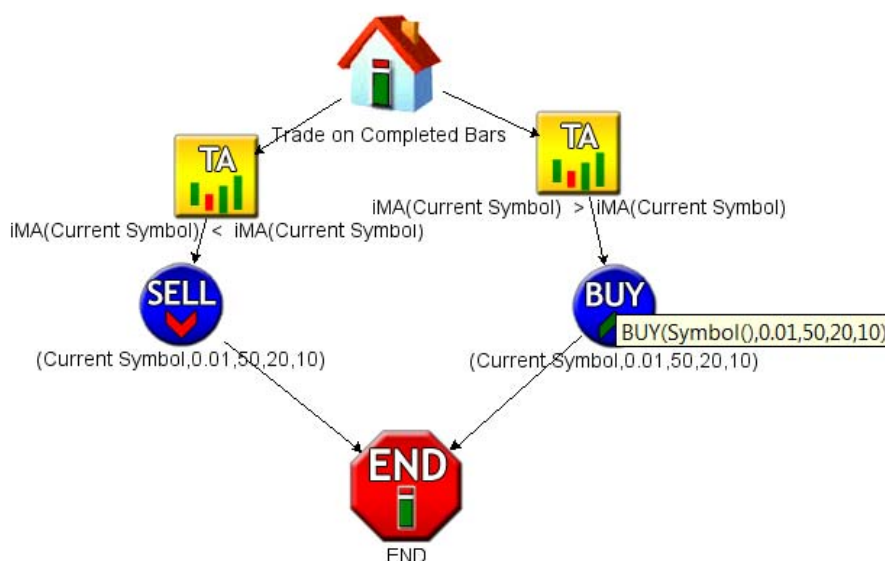
Then you need to generate the EA:
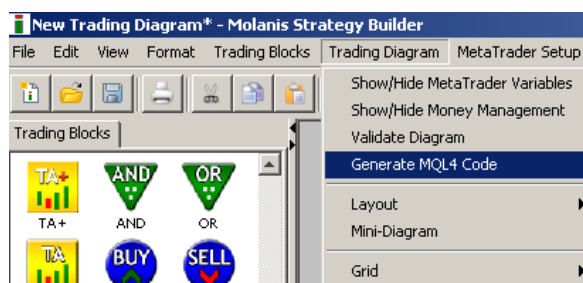
And then you trade with MetaTrader. It's really simple! – This guide explains what you need to know to create powerful expert advisors for MetaTrader.

MINIMUM SYSTEM REQUIREMENTS

To successfully install and use Molanis Strategy Builder, you must have:

- Windows XP, Professional, Server 2003 or 2008, Vista.
- Pentium IV-compatible 2GHz processor, 1 GB of RAM, 20 MB of disk space.
- Java 1.4 or higher.
- MetaTrader Terminal (You can download it from http://www.metaquotes.net/terminal)

INSTALLATION

First install java from http://java.com

Once you have verified that your PC meets the minimum system requirements run MolanisSB3 installer.

During the installation process, it is recommended that you read, understand and agree to the terms and conditions under which Molanis Strategy Builder is released.

During the process you will be asked for your license information. Type your First Name, Last Name and your License Key. The License Key is provided to you via email when you purchase Molanis Builder Strategy. Please note that Beta Versions come with a Beta license so this step may not be included in the process.

LICENSE

Molanis Strategy Builder is provided under a license agreement. A copy of this agreement can be found at the end of this document.

A free trial download that runs for 10 days is available. This trial has only a few limitations. Most notably, you cannot see the MQL code of your EA. You will be able to generate all the .ex4 files (compiled eas), fully functional to trade, back-test and optimize. In order to see the MQL code and all MQ4 files, you must buy Molanis Strategy Builder Pro version and activate your license.

How do I install the license file?

If you have been provided with a license file, you need to install it.
The license file is sent by email as an attachment. The license file name is license.xml

To: license@molanis.com <license@molanis.com>;
Subject: License for Molanis Strategy Builder for MT4 - Pro
Attach: license.xml (516 bytes)

Dear Sir,

Here is your license for Molanis Strategy Builder for MT4 - Pro. Please save the attached file in the installation directory. Replace the existing file.
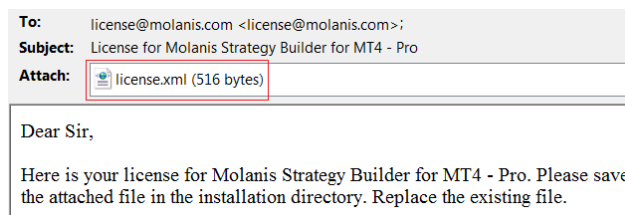
To install the license, save the license file (license.xml) in the directory where you installed our product. For example the Strategy Builder is installed by default in C:\Molanis\Strategy_Builder.

Save Attachment As
« ACER (C:) ▸ Molanis ▸ Strategy_Builder   ▾ ↨ Search

Organize ▾   Views ▾   New Folder

Favorite Links
Documents
More »

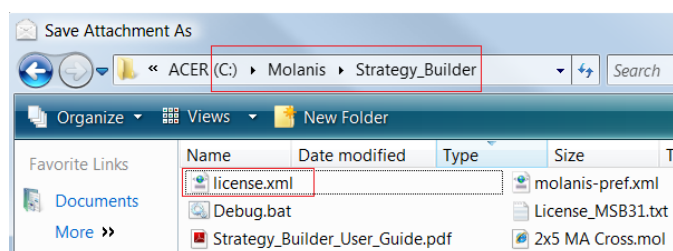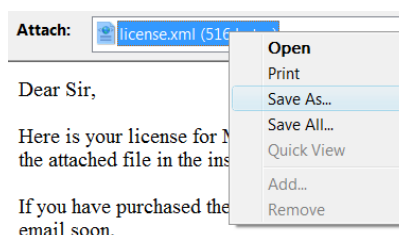| Name	Date modified	Type	Size	T
license.xml			molanis-pref.xml	
Debug.bat			License_MSB31.txt	
Strategy_Builder_User_Guide.pdf			2x5 MA Cross.mol	

Thus to install the license right click on the attachment, click on save as, search the directory C:\Molanis\Strategy_Builder, and click on the Save button (Steps may change depending on your email client)

Attach: license.xml (516 ...)
Open
Print
Save As...
Save All...
Quick View
Add...
Remove

Dear Sir,

Here is your license for M...
the attached file in the ins...

If you have purchased the...
email soon.

In the directory C:\Molanis\Strategy_Builder you will find an existing license.xml file. That file is the old or demo license. You need to replace it with the new license file. So click on Yes when asked *Do you want to replace it?*

Confirm Save As
license.xml already exists.
Do you want to replace it?
Yes   No
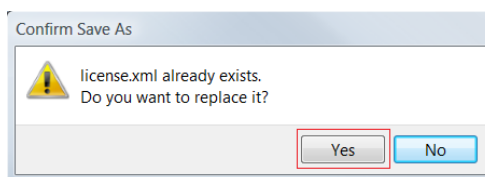
After the license is in place you need to set up Molanis connection to MT4. Please look at:
http://www.molanis.com/images/stories/molanis/mt4setupMolanis.pdf

GRAPHICAL ENVIRONMENT

Molanis Strategy Builder has been designed to be intuitive and easy to use. To create a forex strategy, just drag trading blocks from the Trading Block Library and drop them into a Trading Diagram.
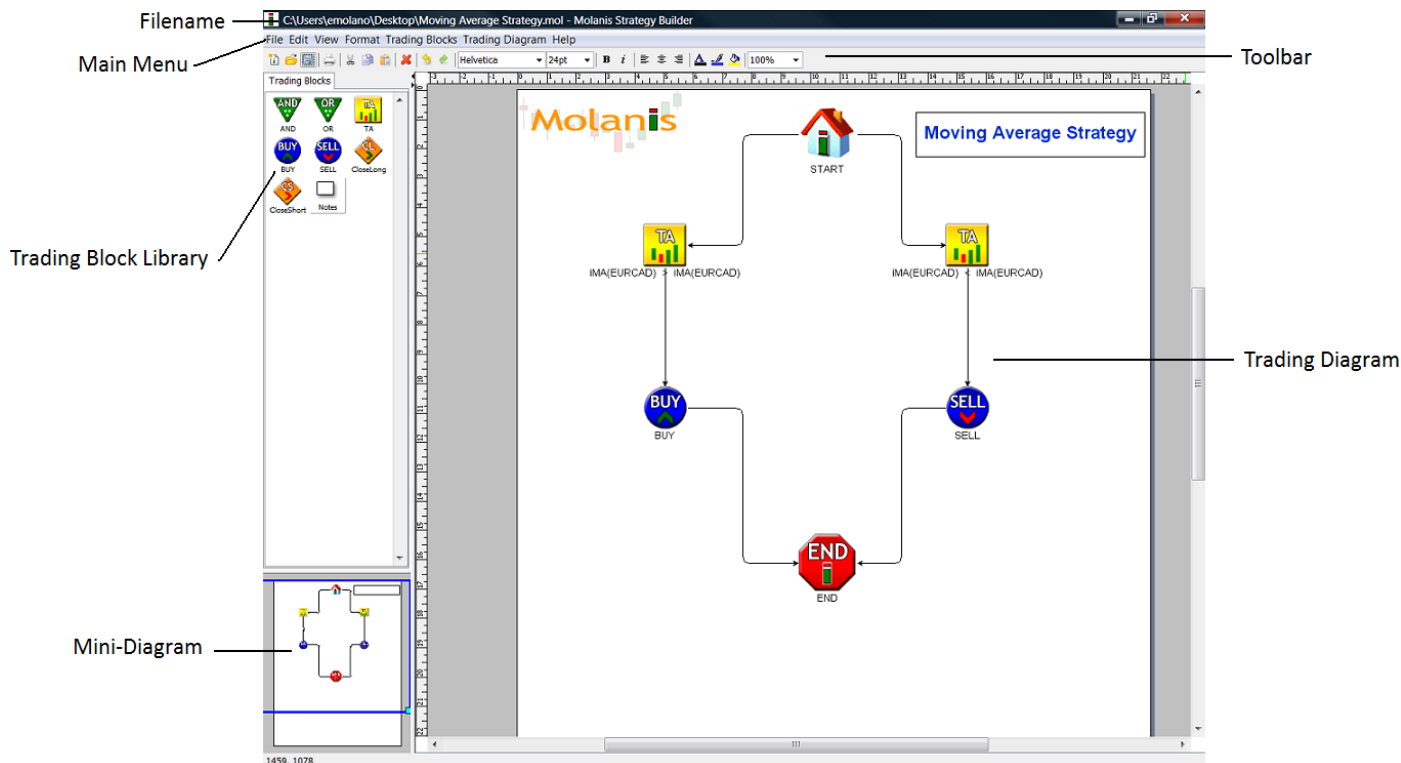
MAIN MENUS

The main menu is located under the program heading and has all the commands and functions you need to build your forex strategy.
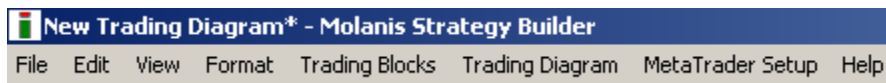
File Menu

This menu includes commands for creating new files (.mol files), storing your forex strategy and printing options.

New	Creates a new trading diagram.
Open File	Opens an existing strategy (.mol file) already created in Molanis Strategy Builder. The initial installation comes with a basic moving average strategy but additional free strategies can we found at www.molanis.com
Save	Saves the current trading diagram.
Save As	Allows you to save your trading diagram with another name and/or in another folder. It also gives you the possibility of saving you trading diagram as an image.
Download Examples	Takes you to our examples page at Molanis.com
Print	Prints the current trading diagram.
Exit	Exits Molanis Strategy Builder.

Edit Menu

This menu includes commands that will help you modify your current trading strategy.

Undo	Reverses the last action executed to your trading diagram.
Redo	Redo the last action executed in your trading diagram.
Cut	Removes the current selection.
Copy	Creates a replica of your current selection.
Paste	Paste the selection you have already cut or copied.
Delete	Removes your current selection from the trading diagram.
Select All	Select all the Trading Blocks in your current trading diagram.
Select All Connectors	Select all the connectors (lines) in your current trading diagram.

View Menu

Grid	Turns the grid on and off. A check mark (√) next to the function indicates that the grid is visible.
Rulers	Turns the rulers on and off. A check mark (√) next to the function indicates that the rulers are visible.
Zoom	Increases or decreases the size of the current trading diagram to a fixed percentage: 400%, 200%, 100%, 75%, and 50%
Zoom In	Increases the size of the current trading diagram.
Zoom Out	Decreases the size of the current trading diagram.
Page	Shows the current trading diagram in one page.

Width Adjusts the current trading diagram size to the width of the screen.

Actual Size Shows the actual size of the current trading diagram.

Format Menu

The format menu displays formatting options.

Text Includes the following functions:

  Font Color: Changes the Font color of the selected text

  Rotate: Rotates the selected text.

  Position: Move the selected text to the desired position within the trading block. Horizontal position: top, middle or bottom. Vertical Position: left, center or right.

Connector Shows formatting options for connecting arrows, such as Line Color, Line width and dashed or continuous line option. Line types include Straight, Horizontal, and Vertical, Curve.

Trading Blocks Menu

Shows the different options that allow you to organize the trading blocks in the trading diagram.

To Back Position the selected trading block at the back of other trading blocks or text boxes (Notes)

To Front Position the selected trading block at the front of other trading blocks or text boxes (Notes)

Align Aligns the selected trading blocks to the desired position. Horizontal: left, right, center. Vertical: top, middle, bottom.

Trading Diagram Menu

Show/Hide MetaTrader Variables Shows/Hide the MT4 icon

Show/Hide Money Management Shows/Hide the Money Management icon

Validate Diagram Checks the consistency of the trading diagram. It alerts when trading blocks are missing connections or changes on parameters are needed.

Generate MQL4 code Creates the code of the forex strategy to be used with MetaTrader. Two files are created, one MQ4 (code) and one EX4 (compiled code).

Layout Helps you to automatically organize your trading diagram.

Mini-Diagram Shows a minimized version of the trading diagram at the bottom - left corner of the screen. A check mark (√) next to the function indicates that the Mini-Diagram is visible.

Grid	Changes grid style: grid size, grid color, and grid type.

MetaTrader Setup

Used to setup the MetaTrader location in your pc

MetaTrader Directory	Sets the directory where MetaTrader is installed

Help Menu

Online Help	Takes you to Molanis Strategy Builder help page that describes the product's features, trading blocks, and provides examples of common forex strategies.
Molanis Community	Connects you with Molanis community forum at www.molanis.com/forum
Report Bug or Request Enhancement	Allows you to report bugs or request new features
Software Updates	Checks for the latest release of Molanis Strategy Builder
Buy Molanis strategy Builder	Allows you to buy a license for Molanis Strategy Builder at www.molanis.com
License Information	Shows license information and expiration date if applicable
About Molanis Strategy Builder	Shows the version of Molanis Strategy Builder running

TOOLBAR

The Toolbar provides easy access to the most frequently used options.

Tip: A short description of the function appears when you move the mouse over each icon

The functions that you will find in the tool bar are:

File Options	New, Open, Save, Print
Edit Options	Cut, Copy, Paste, Delete, Undo, Redo
Font Options	Font type, Font size, Bold, Italic
Format Options	Text positioning, Font Color, Line Color, Background Color (for text boxes/Notes)

TRADING DIAGRAM

A trading diagram is a graphical representation of a trading algorithm, forex strategy or expert advisor. It shows the 'flow' through a trading decision system. Trading diagrams are made of trading blocks that are connected to create complex forex strategies.

> To create a trading diagram, you only need to add the trading blocks, set their configuration parameters and make the necessary connections.

Molanis Strategy Builder includes a number of trading blocks used when modeling a trading strategy. These include:

Configuration Block

START   Trading block that indicates where the forex trading strategy starts. The START icon always appears at the top of the trading diagram.

The START trading block allows the forex strategy (Expert Advisor) setup. It has three main groups of options:

a.   General Options
b.   Trading Options
c.   Basic Money Management Options

To access the configuration options simply double click on the START trading block and you will be prompted with the following screen:

When the Expert Advisor code is generated, the options on the START trading block are transformed into MT4 variables. This means that each variable in the START trading block has an equivalent variable on MetaTrader as shown in the following chart from MT4:

a. <u>General Options</u>

OPTION	DESCRIPTION	VARIABLE ON MT4
Account Type	Select your account type between Micro and Standard.	IsMicroAccount = True Define if account is micro or standard. True means your account is Micro Account. False means it is a Standard Account.

OPTION	DESCRIPTION	VARIABLE ON MT4
Execution Mode	Completed Bars: Execution every time a full bar is completed. Every Tick: Execution every time a tick is received.	CompletedBars = True Define execution by bars or ticks. True means EA is executed every time a full bar is completed. False means EA is executed every time a tick is received.
Execution Type	Trade: Allows trading. Alert: Does not allow trading. Instead, it shows/sends emails with alerts.	TradeOrAlert = False Define execution type. True allows trading, False sends Alerts.
eMail Mode	Sends emails with the order execution information and/or warnings.	SendMailMode = False When True, The EA sends emails with order execution information
Play Sound	Plays a sound when orders/alarms are executed	PlaySounds = True Plays a sound when True. The MT4 variable MySound allows you to change the sound to be played.

> **▮** Forex Signals: Turn your expert advisor into a tool to advise you of market changes and trading opportunities. Just change the Execution Type option from Trading to Alert and your expert advisor will send you alerts instead of trading. Alerts include sounds, a standard MetaTrader popup alert, and emails.

b. <u>Trading Option</u>

OPTION	DESCRIPTION	VARIABLE ON MT4
Trading Time Filter	Allows to open/close positions according to a SERVER time (hour) filter. If ON, you need to set Trading Hours Start and Trading Hours End. This feature applies to the whole EA. If you want to have a time filter for one trading condition you need to use a time icon (explained later)	UseTradingTime = False If True, trades only when tradingtimestart < hour < tradingtimeend
Trading Hours Start	EA trades only when SERVER time is between trading hours start and trading hours end	TradingTimeStart=9 i.e. 9 = 9 am
Trading Hours End	i.e. To trade from 9 am to 4 pm Trading Hours Start=9 and Trading Hours End=16	TradingTimeEnd=16 i.e. 16 = 4 pm

OPTION	DESCRIPTION	VARIABLE ON MT4
Action before/after trading hours	Define whether you want to close all positions when the server time is not between trading hours. This new feature could be used to close all positions after the trading hours have passed.	ClosePositionsNonTH=True If ClosePositionsNonTH = True, all open positions will be closed after/or before trading hours.
Buy/Sell orders include TP/SL	Some brokers require that your Buy/Sell orders do not include TP (Take Profit)/SL (Stop Loss). These are added later.	OrderIncludeTPSL = True (try this option first since some ECN brokers accept the TP and SL but process it later) If False, orders are opened and later TP/SL is added.
Maximum Number of Positions	Controls the maximum number of simultaneous open positions per currency pair	MaxNumberofPositions =1 Allows 1 open position per currency pair and 1 pending order. If you hedge, it allows 1 long and 1 short position
Number of Retry Attempts for Order Execution	Number of times the EA retries to execute an order when server errors are detected	MaxOrderRetry = 100 If there is an error executing orders, the script retries MaxOrderRetry times
Buy Color	Color used for the icon that identifies buy orders on the MetaTrader chart	BuyColor = Green Color to identify buy orders
Sell Color	Color used for the icon that identifies sell orders on the MetaTrader chart	SellColor = Red Color to identify sell orders
Automatically Adjust SL/TP to Server Accepted Levels	Adjusts Take Profit (TP) and Stop Loss (SL) levels above the minimum level allowed by the MT4 server	AutoAdjustSLTP=True To turn On (True)/Off (False) auto adjustment. Adjusts SL to three times the minimum SL allowed. Please note that this option was depreciated. It is there for historical reasons.

c. Basic Money Management Options

OPTION	DESCRIPTION	VARIABLE ON MT4
Maximum Percentage at Risk	Allows to set a maximum percentage of your equity at risk per position. If ON, you need to set the Maximum Percentage at Risk - Value	UseMaximumPercentageatRisk= False Turns on/off maximum risk condition

OPTION	DESCRIPTION	VARIABLE ON MT4
Maximum Percentage at Risk – Value	A value of 2=2% means that any position that risk more than 2% of equity will be adjusted to 2% reducing the lot size	MaximumPercentageatRisk = 2 i.e. max size of trade = 2 = 2% of equity
Reward Risk Ratio	Used to determine the level of risk in a trade. If ON, you need to set Reward Risk Ratio - Value. THIS OPTION WILL BE DEPRECIATED SOON.	UseRiskRatio=True Turns on/off risk ratio
Reward Risk Ratio – Value	I.e. RewardRisk=TakeProfit/StopLoss. If RewardRisk=3 and TakeProfit=30 pips then StopLoss=30/3=10 pips. You make 30 pips per winning trade and lose 10 pips per losing trade. THIS OPTION WILL BE DEPRECIATED SOON.	RiskRatio=3 i.e. RiskRatio=3 means that TakeProfit/StopLoss = 3
Lot Management	Lot management reduces the lot size after one or more consecutive losses. You need to select the lot management type and reduction factor. Do not use this option if you are using martingale (explained later)	UseLotManagement=True Turns on/off lot management
Lot Management Type	Type 1: Lot decreases by equation [lot-(lot * number of consecutive losses/Lot Reduction Factor)] Type 2: Lot is reduced using 25% steps (75%,50%,25%)	LotManagementType=1 1 sets Type 1, 2 sets Type 2
Lot Reduction Factor	i.e. When lot=10, consecutive losses=2 and Lot Reduction Factor=4, reduction equation gives the adjusted lot size = 10-(10*2/4)=5	ReductionFactor = 4 For money management, lot is reduced according to the equation: lot-(lot * number of consecutive losses/ReductionFactor)

If you want to use Martingale - see Advanced Money Management.

Additional MT4 variables:

EAName, its value is set to the filename of your strategy (.mol file).

Slippage, set at 3 pips.

Pair Variables, Molanis Strategy Builder automatically creates variables for each currency pair included in the forex strategy. These variables contain values for lot size (LS), take profit (TP), stop loss (SL) and trailing stops (TS). I.e. For a EURCAD strategy, typical values include : S_EURCAD_LS_0, S_EURCAD_TP_0, S_EURCAD_SL_0, S_EURCAD_TS_0, B_EURCAD_LS_0, B_EURCAD_TP_0, etc

> ■ Pair variables are constructed using the following standard:
> Order Type First letter (**B**uy or **S**ell) + Currency Pair + Variable Use (LS, TP, SL, TS) + Reference Number
> i.e. S_EURCAD_LS_0 is a variable for a Sell order, for EURCAD, and has the value for the Lot Size. B_EURCAD_TP_0 is a variable for a Buy order, for EURCAD, containing the Take Profit Value. Use these variables to optimize your EA when back-testing your strategy in MetaTrader.

4 and 5 digits support: For those that are still trading with 4 digit brokers, we added a variable to change the ea digit number. In MetaTrader, click on the experts properties. Under the Inputs tab, change the variable FiveDigits to False if you use a 4 digit broker. Use FiveDigits = True for 5 digit support. By default the eas are generated using 5 digits support.

> ■ For CFD or instruments with none, one, or two digits use FiveDigits=False

Hedging: If Hedge = True, the EA will hedge. It will open short and long positions at the same time. If Hedge = False before going long (buying a currency pair) the software will close all short positions; and before going short (selling a currency pair) the software will close all long positions. If you are hedging you need to use the CLOSELONG (CL) and CLOSESHORT (CS) icons to close existing positions.

Advanced Trailing Stops: By default if you trade using bars, trailing stops are evaluated using bars; or if you trade using ticks, trailing stops are evaluated using ticks. If you want a different behavior you can use the advanced trailing stops:
1. Check trailing stops regardless of the definition in the Execution Mode: So you can trade using bars but evaluate trailing stops every tick. This feature is available in MT4, under the ea inputs. If CheckTSEveryTick=True, trailing stops are evaluated every tick. If CheckTSEveryTick=False, trailing stops evaluation will depend on the definition of the Execution Mode (ticks or bars)
2. Time Based Trailing Stops: This feature allows evaluating the trailing stops every n minutes, where n is defined by the trader. So now, you can trade using one hour bars and evaluate the trailing stops every 30 minutes (or any time frame defined by the user). To access this option, in MT4 go to the expert advisor input and set UseTimeBasedTS = True and TimeBasedTS = 30 (or any time frame i.e 5 for 5 minutes, 10 for 10 minutes, 30 for 30 minutes). Please bear in mind that MT4 backtesting uses a fixed time frame so you cannot backtest time based trailing stops.,

MetaTrader variables are used to test, optimize, and backtest your expert advisor in MetaTrader without having to edit your strategy with Molanis Strategy Builder. For example, changing UseTradingTime variable on MetaTrader from False to True creates a time filter for your trades. This means that your EA will trade only when the Server Time is between TradingTimeStart and TradingTimeEnd.
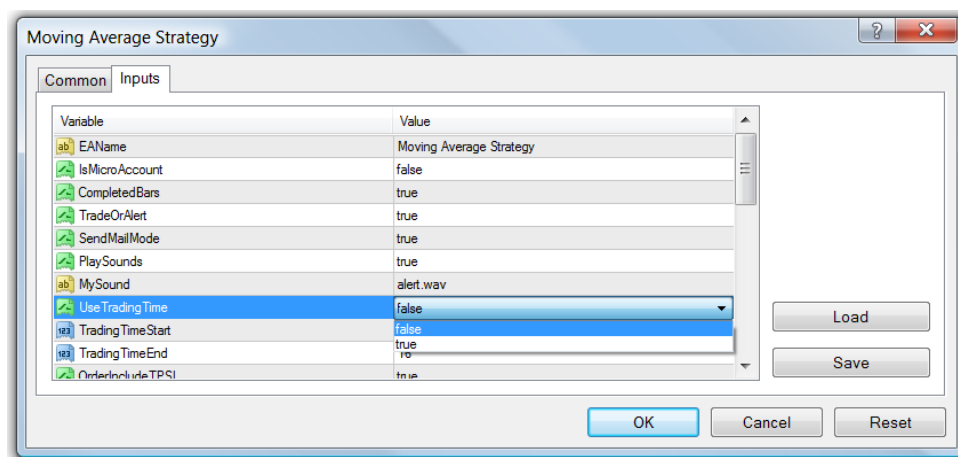
If you want to find the best trading time for your EA simply back-test your forex strategy optimizing the variables TradingTimeStart and TradingTimeEnd.
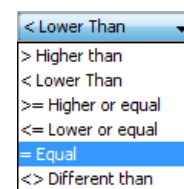
Technical Analysis

TA

The TA - Technical Analysis trading block allows you to create trading conditions using well known technical indicators. It is the key base for the development of forex strategies.

To create a trading condition, edit the Technical Analysis trading block (TA), select a technical indicator from the list on the left. Then set up the indicator parameters. Repeat the same procedure from the list on the right. Finally select one of the comparison options and click OK.
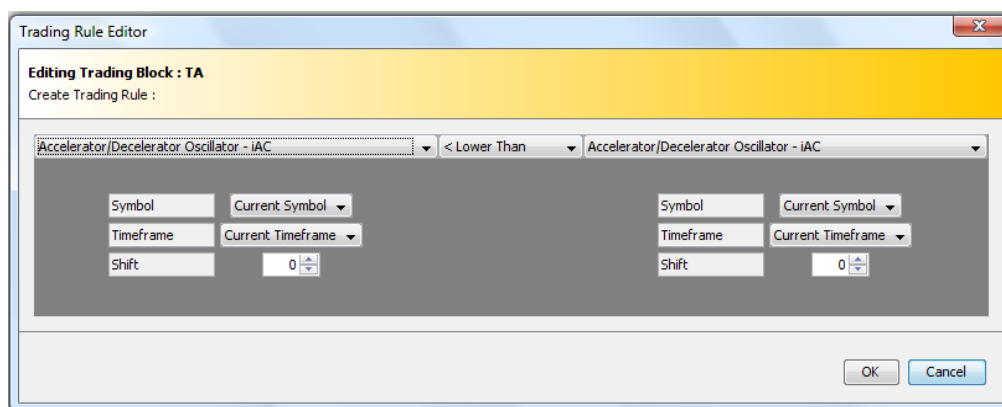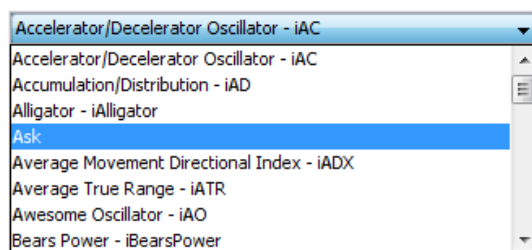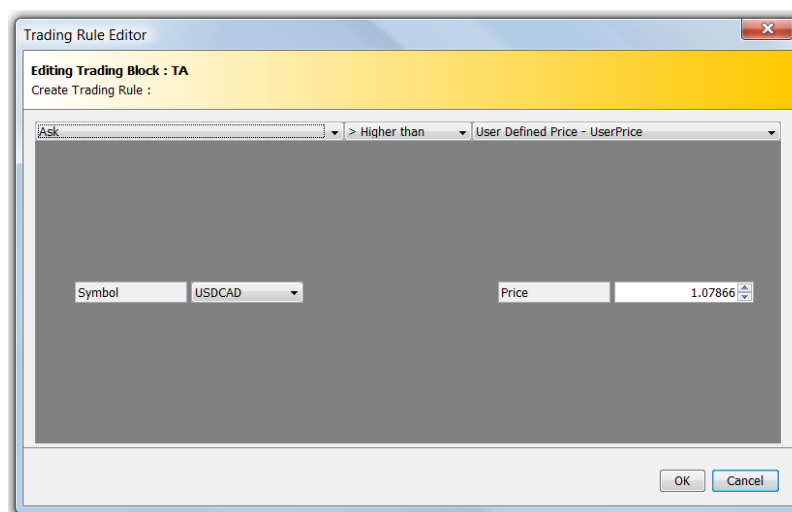
Well known technical indicators are available to be used   Comparison Options

The Trading Condition on the previous graph can be described as: Condition is true if the Ask Price for USDCAD is higher than 1.07866.

Currently, Molanis Strategy Builder has the following technical indicators available:

Accelerator/Decelerator Oscillator – iAC
Accumulation/Distribution – iAD
Alligator – iAlligator
Ask
Average Movement Directional Index – iADX
Average True Range – iATR
Awesome Oscillator – iAO
Bears Power – iBearsPower
Bid
Bollinger Bands – iBands
Bulls Power – iBullsPower
Close – iClose
Commodity Channel Index – iCCI
Custom Indicator – iCustom: *To learn how to use custom indicators see Importing Custom Indicators into Strategy Builder*
DeMarker – iDeMarker
Envelopes – iEnvelopes
Force Index – iForce

Fractals – iFractals
Gator Oscillator – iGator
High – iHigh
Ichimoku Kinko Hyo – iIchimoku
Low – iLow
Market Facilitation Index – iBWMFI
Momentum – iMomentum
Money Flow Index – iMFI
Moving Average – iMA
Moving Average of Oscillator – iOsMA
Moving Averages Convergence/Divergence – iMACD
On Balance Volume – iOBV
Open – iOpen
Parabolic SAR Stop and Reverse System – iSAR
Percent Range – iWPR
Relative Strength Index – iRSI
Relative Vigor Index – iRVI
Standard Deviation – iStdDev
Stochastic Oscillator – iStochastic
User Defined Price – UserPrice

TA+	**TA+**	Advanced Technical Analysis icon (TA+), similar to a TA icon but includes the possibility to use MetaTrader variables (created in the MTVAR icon) so you can create and optimize powerful expert advisors.
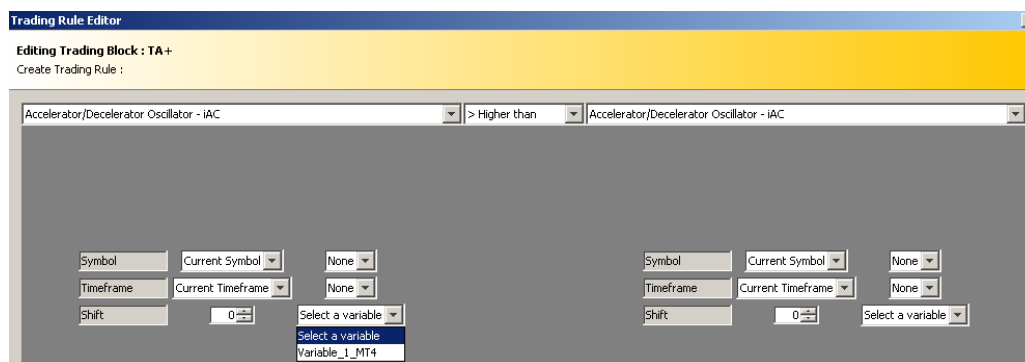
Logic Blocks

AND	**AND**	Produces a value of true if and only if both of its preceding trading blocks are true.

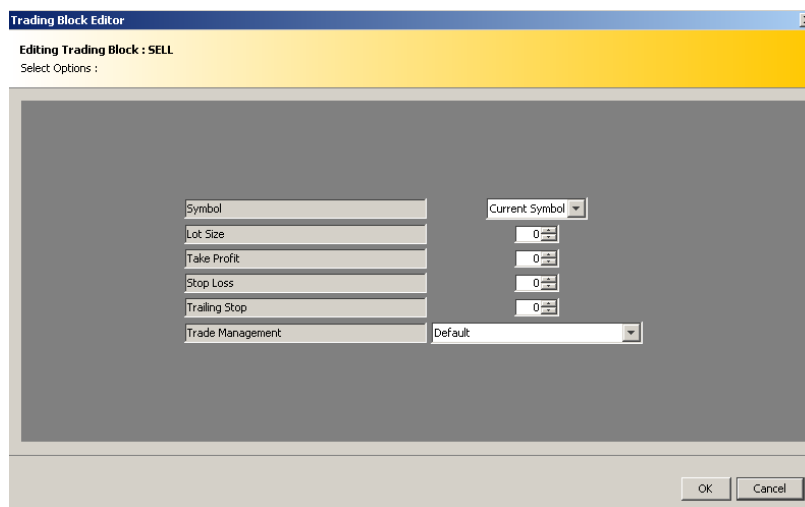|	OR	Produces a value of true whenever one or more of its preceding trading blocks are true.

Execute Order Blocks

	BUY	Executes a Buy Order. You need to select the currency pair, Lot Size, and the pip value for Take Profit, Stop Loss, and Trailing Stop. (A value of zero pips means do not use this option)

Trading Block Editor

Editing Trading Block : BUY
Select Options :

Symbol	Current Symbol
Lot Size	0.1
Take Profit	100
Stop Loss	50
Trailing Stop	10
Trade Management	Default

Default
Wait until an opposite trade is opened

OK   Cancel

	SELL	Executes a Sell Order. You need to select the currency pair, Lot Size, and the pip value for Take Profit, Stop Loss, and Trailing Stop. (A value of zero pips means do not use this option)

BUY and SELL icons have the new Next **Trade Management option**, it allows users to create more complex trading conditions. If you are just starting to use this product use the Default option. See Next Trade Management for more information.

|		
	BUY+	Executes a BUY Order. You need to select the currency pair, Lot Size, and the pip value for Take Profit, Stop Loss, and Trailing Stop. (A value of zero pips means do not use this option) You can create variables for MetaTrader in the MT VAR icon and then use them in the BUY+ icon. Thus you can create variables to control and backtest the Lot Size, and the pip value for Take Profit, Stop Loss, and Trailing Stop. You can also set dynamic stops using the ATR and Standard Deviation indicators. i.e. An ATR take profit stop is placed at entry price + the round number of (ATR in pips * Multiplier). For more information read the dynamic stops section later in this guide. The main difference between a BUY and a BUY+ icon is that BUY icons do not allow variables or dynamic stops.
	SELL+	Executes a Sell Order. You need to select the currency pair, Lot Size, and the pip value for Take Profit, Stop Loss, and Trailing Stop. (A value of zero pips means do not use this option) You can create variables for MetaTrader in the MT VAR icon and then use them in the SELL+ icon. Thus you can create variables to control and backtest the Lot Size, and the pip value for Take Profit, Stop Loss, and Trailing Stop. You can also set dynamic stops using the ATR and Standard Deviation indicators. i.e. An ATR take profit stop is placed at entry price - the round number of (ATR in pips * Multiplier). For more information read the dynamic stops section later in this guide.

The main difference between a SELL and a SELL+ icon is that SELL icons do not allow variables or dynamic stops.
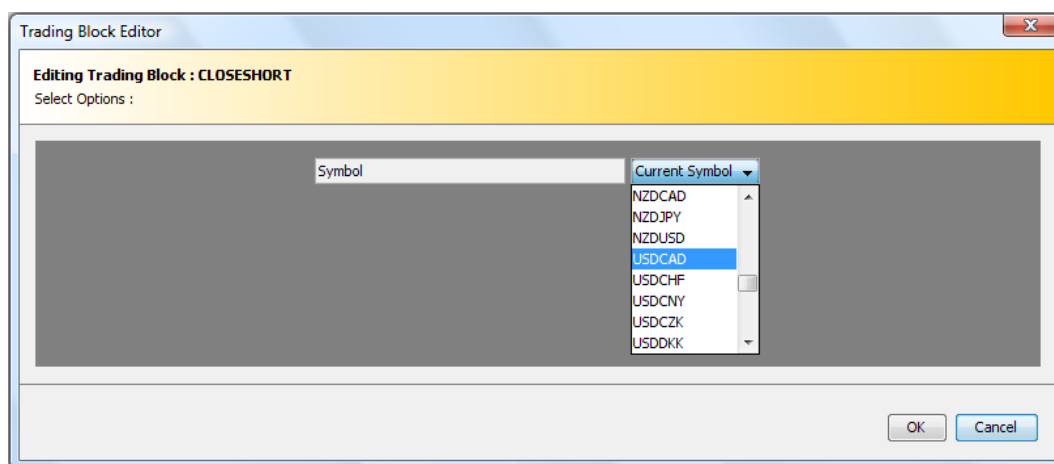
Close Open Positions Blocks

CLOSE LONG   Closes all long positions for the selected currency pair
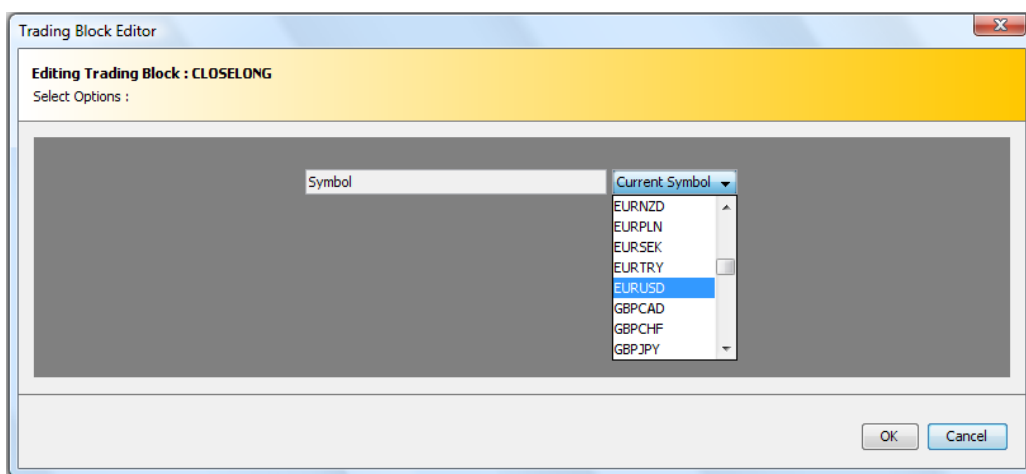
CLOSE SHORT   Closes all short positions for the selected currency pair

Time Control

TIME

This icon gives users total control of time trading. It allows the setup of trading conditions based on days of the week, hours and minutes. Please note that the time feature in the START icon controls time settings for the EA and the TIME icon gives more control on the trading conditions. We advise to use the TIME icon using an AND to join a TA icon and a TIME icon.


For time filters you have 3 options:

1. You use the START icon

2. You use a TIME icon

3. You use both

For 1) In the START icon you define a time filter for the whole ea. The ea works if the server time is in the time filter (between X hour and Y hour). The START icon has an option that you can set to close all

positions when trading time is out of the time filter (before X and after Y). Again this applies to the whole expert advisor.
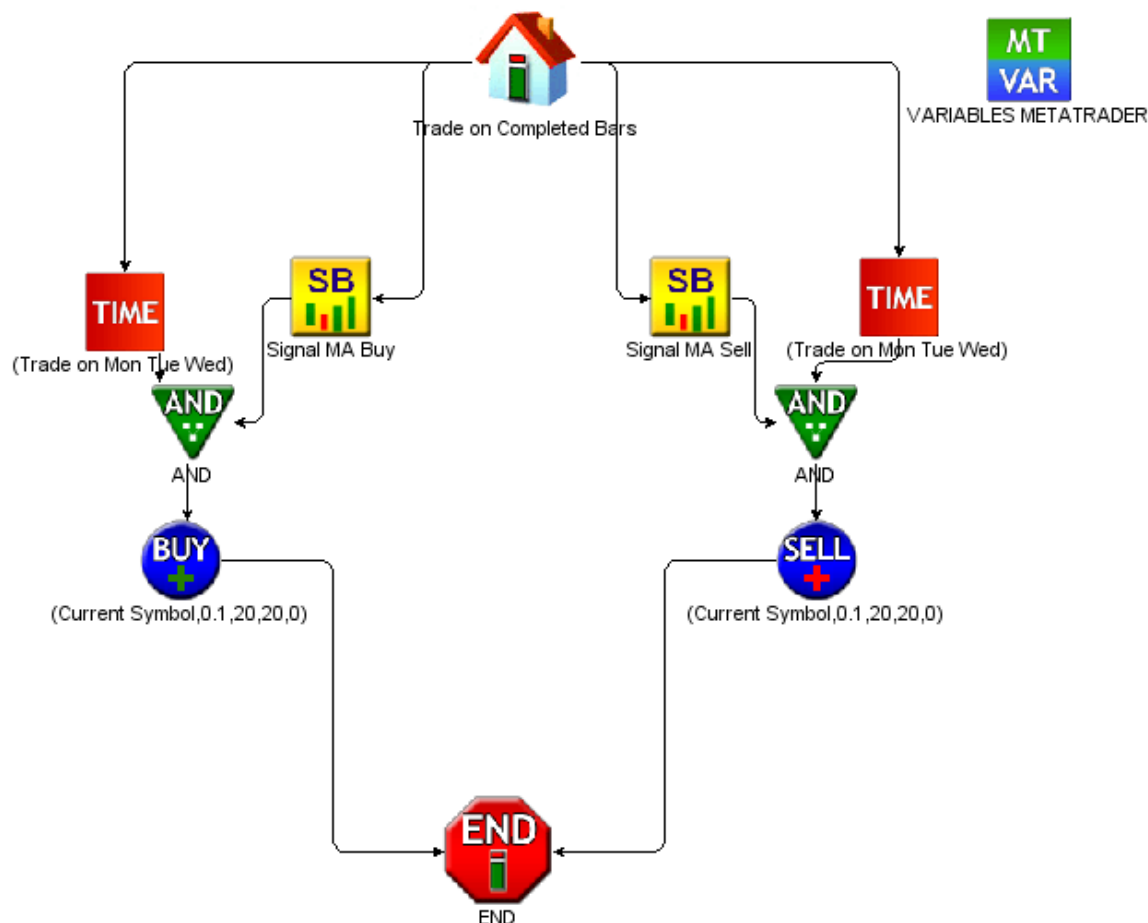
For 2) You don't use the START icon, instead each conditions in the ea use a TIME icon connected to a TA (or TA+) icon using an AND.
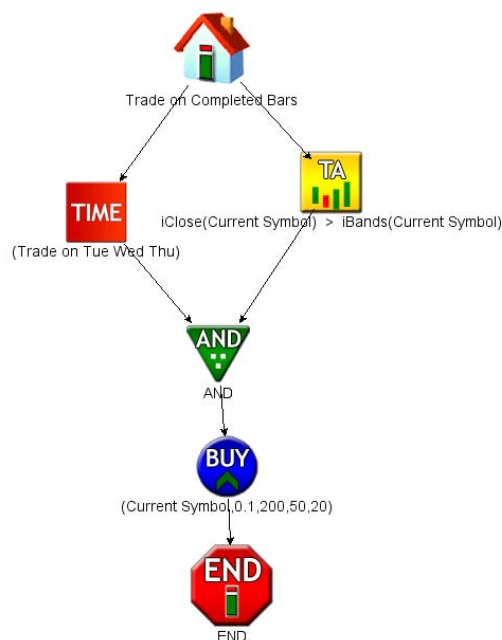
 You can use a CL or CS icon connected to a TIME icon to close positions (make sure the TIME icon that opens positions does not overlap with the TIME icon that closes positions). Or you can use the time icon on its own (i.e. BUY on Monday at 10am)

For 3) You use the START icon to close positions out of the time filter (between X hour and Y hour) and use the TIME icon to open positions. This requires synchronizing START and TIME to avoid undesired overlaps.

The chart below shows a simple MA Strategy that trades from Monday to Wednesday, uses variables and dynamic stops.

Trade on Completed Bars

VARIABLES METATRADER

TIME (Trade on Mon Tue Wed)

SB Signal MA Buy

SB Signal MA Sell

TIME (Trade on Mon Tue Wed)

AND

AND

BUY (Current Symbol,0.1,20,20,0)

SELL (Current Symbol,0.1,20,20,0)

END

Pending Orders

BUY P

Pending Buy icon: Executes a BuyStop at the Ask price + a buffer (offset in pips) or Executes a BuyLimit at the Ask price - a buffer (offset in pips).

BuyLimit is a pending order to buy a currency pair at a price lower than the current price. The order will be executed (modified into market order Buy) if the Ask price reaches or falls below the price set in the pending order. BuyStop is a pending order to buy a currency pair at a price higher than the current price. The order will be executed (modified into market order Buy) if the Ask price reaches or rises above the price set in the pending order.

SELL P	**SELL P**	Pending Sell icon: Executes a SellStop at the Bid price - a buffer (offset in pips) or Executes a SellLimit at the Bid price + a buffer (offset in pips). SellLimit is a pending order to sell a currency pair at a price higher than the current one. The order will be executed (modified into market order Sell) if the Bid price reaches or rises above the price set in the pending order. SellStop is a pending order to sell a currency pair at a price lower than the current one. The order will be executed (modified into market order Sell) if the Bid price reaches or falls below the price set in the pending order.
DEL P	**DEL P**	Delete Pending icon: Deletes pending orders.
ALERT	**Alert**	In the Alert icon you can create your own custom alerts. It manages several options to show the alerts: MT4 alerts, print alert to logs, print alert to the charts, or send emails. This icon gives a better control of Alerts. With the Strategy Builder you have two options to use alerts. If you want your EAs to show alerts and stop trading, in the START icon set the option Execution Type to Alert. If you want your EA to trade and/or show alerts you can use the Alert icon.

Advanced Money Management

Martingale (Money Management) is our latest money management feature. To use it go to the Trading Diagram menu, and click on Show/Hide Money Management to see the icon MM. Click on it and then set the martingale parameters. Anormal martingale in forex will double your lot size after a loss. We added some interesting options for you in the new Martingale icon:

-Martingale Multiplier: Instead or just doubling the lot size you can control the lot size using the martingale multiplier. If the multiplier is equal to 2, the lot size will double. If it is equal to 1.5, the lot size will increase 50%. It's up to you to define how you want the lot size to grow.

M M

-Normal Martingale, Anti Martingale and Semi Martingale: The normal martingale increases the lot size after a loss, the anti martingale increases the lot size after a profit. SemiMartingale is a martingale where you control the lot size (in our case using the martingale multiplier). A mixed martingale is also available where the lot increases after a loss and after profit.

-The Maximum lot size option to control the martingale feature.

Martingale should be used with care. We do not recommend to use martingale with a real trading account since it is too risky.

Trading Block Editor	
Editing Trading Block : MM	
Select Options :	

Use Martingale	Yes
Martingale Multiplier	2
Increase Lot Size after loss	Yes
Increase Lot Size after profit	No
Maximum Lot Size	1.8

Advanced Coding

MQL

To manage custom MQL trading conditions. Even though some coding knowledge is needed, we made life easier adding a code editor for rapid development. With the MQL icon, you can insert your own MQL code and get more control of your trading conditions.

MQL+

Developers can add their own MQL code to have full control of the Expert Advisor. What is the difference with the MQL icon?
The MQL icon is used to add MQL code to create trading conditions. Thus it needs to be connected to an icon to execute an action i.e. BUY or SELL. The MQL+ is used to add any kind of MQL code so it is not connected to any other icons.

## EA Signal Builder

SB

The EA Signal Builder is an icon that uses the latest technology of visual coding so you can create your trading signals visually. It is so powerful that this user guide has one chapter explaining how to use it. See page 43. **THIS ICON IS ONLY AVAILABLE IN PRO VERSIONS.**

Variables Management

MT VAR

MetaTrader Variables icon used to create variables to optimize indicators during backtesting. Just go to the Trading Diagram menu, then click on Show/Hide MetaTrader variables to see the MTVAR icon. Click on the MTVAR icon, add your own MT4 variables. Then use them in any TA+ icon. Variables will be available in MetaTrader for optimization during backtesting or under the expert advisors' input tab.
When creating variables make sure you use unique names. For examples using variables names like variable1 and variable2 is not recommended.
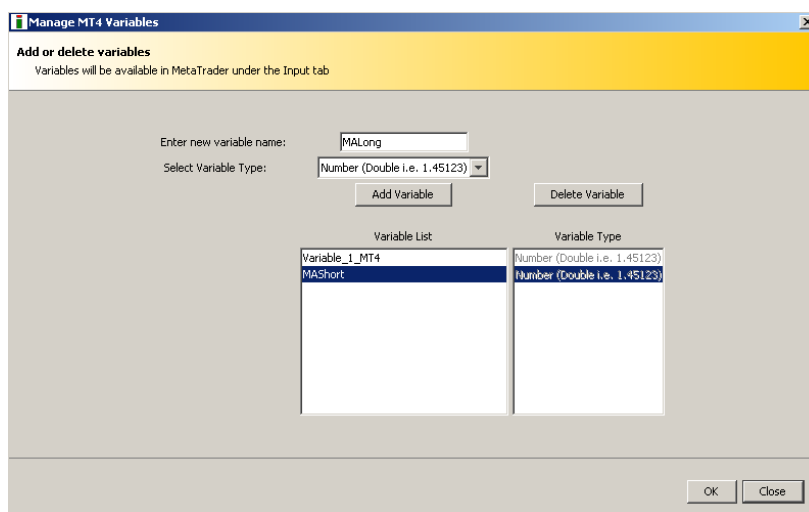
Notes Block

	NOTES	Allows you to write you own notes about the forex strategy. Also called text box.

To add text to a Note or text box, select it and start typing. Your text will appear inside. In the toolbar, you can find formatting options to change the font size, font type, color, and background.

End Block

	END	Trading Block that indicates where the strategy finishes. All trading flows must end at the END block.

Connecting Blocks

	CONNECTING ARROWS	Connecting arrows link trading blocks and define trading flow direction.

To connect two trading blocks, click one of the blocks you are trying to connect and without letting go of the mouse drag the arrow to the other block. If the connecting arrow is green, the connection is allowed. A red arrow indicates that the connection is not possible. When you release the mouse button, the link is created. Once connected, trading blocks stay connected, even if they are moved. All trading blocks should be connected. The only exception to this rule is the Notes block or text boxes that do not connected to any trading blocks.

By default, connecting arrows are curved but you can change their format on the Format Menu -> Connector.
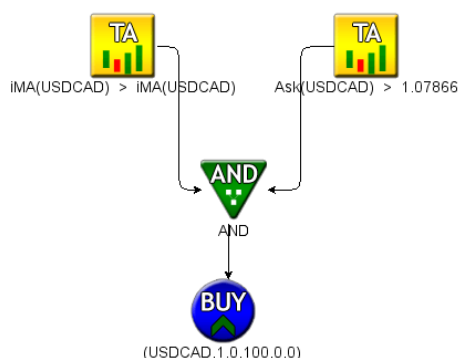
Trading Flow

A Trading Flow is a pipeline through which ticks flow. It shows how the price (ticks) move from the START block to the END block passing through interconnected trading blocks. Connecting arrows represent the direction of the flow, which always initiates in the START block and finishes at the END Block.

The flow of the trading diagram allows a reader to understand the trading strategy: what operations will be performed, in which order, and under what circumstances.

Trading Paths

Trading paths are the possible paths formed when going against the trading flow from the END to the START block. If logic conditions are present (AND - OR), the precedent trading blocks are considered to be part of the same trading path.


In this part of a trading diagram, the trading flow moves from TA to AND, ending at BUY. The trading path helps us to read the diagram, starting from the BUY block:

Buy 1 lot of USDCAD (Take Profit of 100 pips) when the ask price is higher than 1.07866 AND the moving average condition is true (the short period moving average is above the long period moving average)

Trading paths are independent for you to have major control of your forex strategy. However this means that you have to design coherent trading strategies. For example, the following trading diagram, although well connected, is not a coherent strategy. It can be read as:

Buy and Sell at the same time, 1 lot of EURCAD (with a 100 pip take profit and 50 pip stop loss) when the short period moving average (9) is above the long period moving average (18).
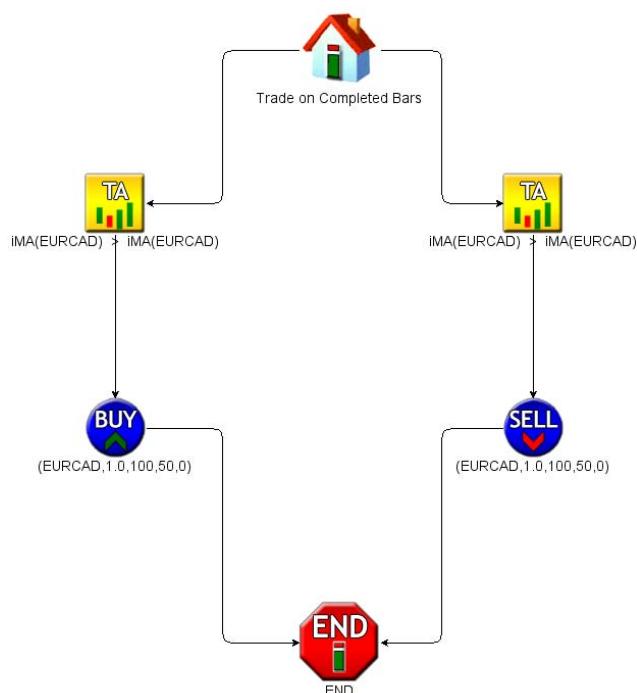
Molanis Strategy Builder does not check for coherence. It is therefore your responsibility to develop a clear understanding of your forex strategy.

Price Action Multi-Currency Trading Diagram: You can create trading diagrams that generate multi-time frame, multi-currency EAs
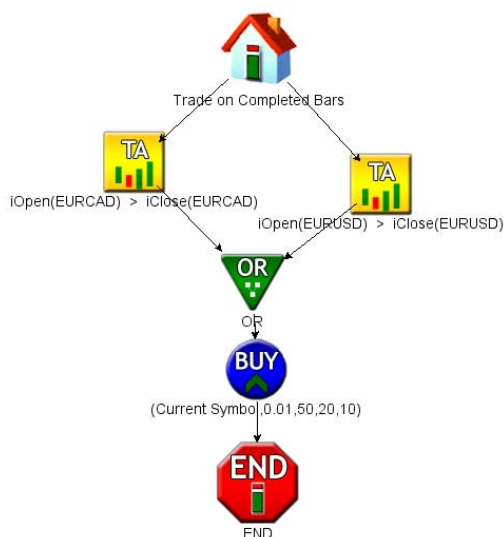
There are several common modeling rules that you need to follow when creating trading diagrams:

- Trading flow moves from START to END block.
- The trading diagram must have at least one complete trading path.
- START connects to Technical Analysis (TA) only.
- Technical Analysis (TA) connects to AND, OR, BUY, SELL, CLOSE LONG, and CLOSE SHORT only.
- AND connects to BUY, SELL, CLOSE LONG, and CLOSE SHORT only.
- OR connects to BUY, SELL, CLOSE LONG, and CLOSE SHORT only.
- END receives connections from BUY, SELL, CLOSE LONG, and CLOSE SHORT only.
- Notes (text box) cannot connect to any block.
- If possible, rearrange your trading diagram to get rid of crossed lines and add a Note with a short description of the trading strategy. Also, to avoid confusion, keep the direction of the trading flow consistent.
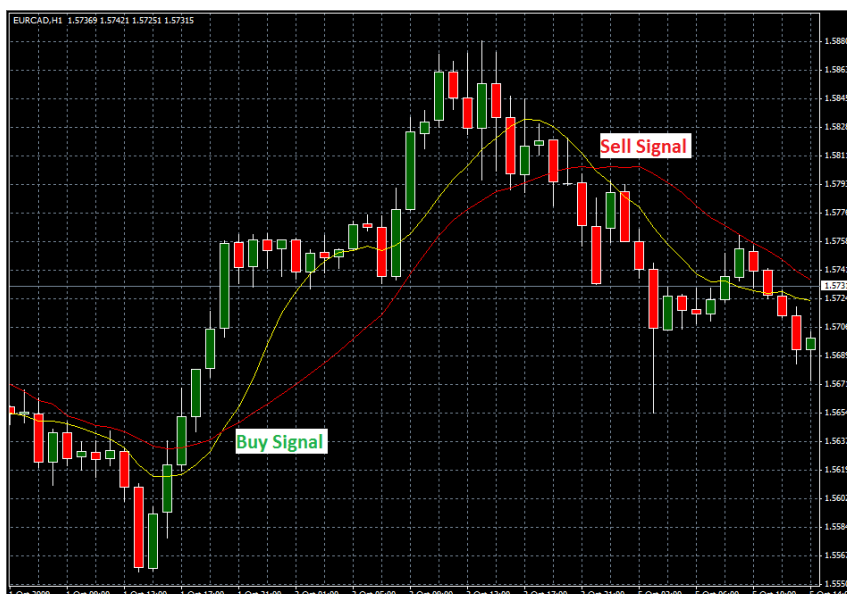
Moving Average Strategy

Typically, two moving averages can be used to create a forex strategy with these rules:

- Buy when the short period moving average is above the long period moving average
- Sell when the long period moving average is above the short period moving average

On the following graph from MetaTrader Terminal, the yellow line is the short period moving average (9) and the red line is the long period moving average (18). So we could rewrite the trading rules or forex signals as:

- Buy when the yellow line is above the red line
- Sell when the yellow line is below the red line

Instead of spending a long time coding this forex strategy, with Molanis Strategy Builder you can create a trading diagram that represents the moving average strategy in minutes. Just drag and drop two Technical Analysis blocks, one Buy block and one Sell block. Connect them and set the block parameters to get a diagram like the following:
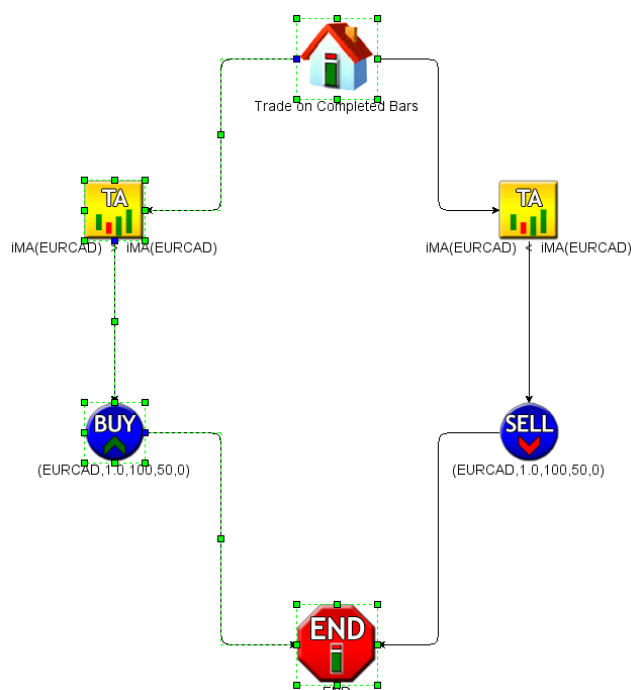
This trading diagram has two trading paths. The left one is highlighted. It goes from the START block to the END block. Remember to read the trading diagram in opposite direction to the trading flow. One could read it as:

Buy 1 lot of EURCAD (with a 100 pip Take Profit and 50 pip Stop Loss) when the short period moving average (9) is above the long period moving average (18). How do we know the short and long period 9 and 18? If you move the mouse over the Technical Analysis block and wait for a couple of seconds you will see the following:

```
( iMA("EURCAD",0,9,0,MODE_SMA,PRICE_CLOSE,0) > iMA("EURCAD",0,18,0,MODE_SMA,PRICE_CLOSE,0) )
```

The right trading path could be read as: Sell 1 lot of EURCAD (with a 100 pip Take Profit and 50 pip Stop Loss) when the long period moving average (18) is above the short period moving average (9).

Molanis Strategy Builder uses the concept of open positions. If you are not hedging a new EURCAD Buy order will close all outstanding EURCAD short positions before being executed. On the same lines, a new EURCAD Sell order will close all outstanding EURCAD long positions before being executed. If you hedge (your broker must allow hedging), a new order will not close opened positions.

> You can turn this simple MA strategy into a moving average crossover using the Next Trade Management Feature

Next Trade Management

Trading conditions (or signals) are created using one TA icon or several TA icons joined by an AND icon or an OR icon. When trading conditions are true, an action is executed. BUY, SELL, CL, CS, BUYP, SELLP, DELP are icons that execute actions (i.e. BUY opens a new long position). Thus a basic moving average strategy would be something like this:

A TA icon with the trading condition MA period 9 > MA period 18, connected to a BUY icon (A similar setting for SELL).
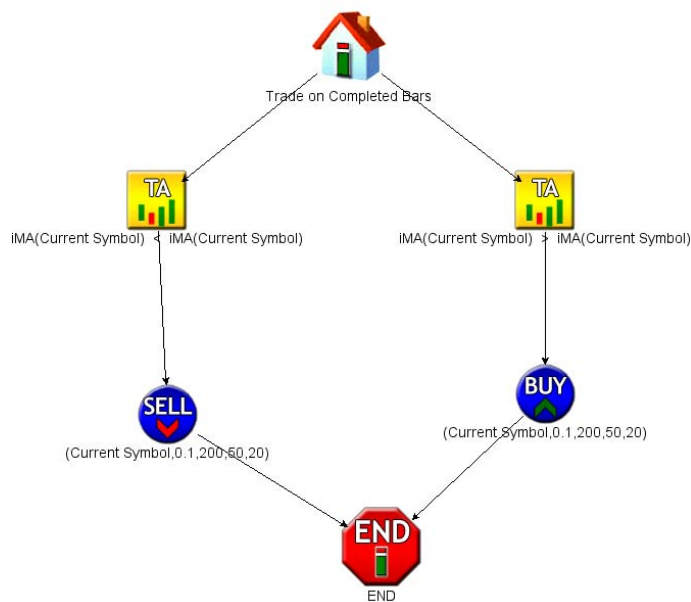
Let's say you are using the strategy defined above, and MA period 9 is higher than MA period 18, so a new position is opened (with a 150 pips take profit and 50 pips stop loss). After a while, the position reaches its take profit and it is closed with a gain of 150 pips. Then, on the next bar, MA period 9 is higher than MA period 18 so a new position is opened. The strategy works as defined. However some users do not get it. They ask why a new position is opened after take profit is executed. The answer to their claims is – it's the way you define the strategy. It's not a ma crossover. It's just a simple ma strategy that looks at a simple condition (Is MA period 9 higher than MA period 18? If the answer is yes, then open a position).

A moving average (ma) crossover is more complex, it requires that you compare moving averages in the current and the previous bar. Crossovers can be defined in different ways - each way has its pros and cons. You need to select a definition that *works for you*. The main rule to follow is to keep a balance between sensitivity and number of trades (A crossover too sensitive will give you too many signals – too many false signals. A crossover that is not sensitive will make you miss signals)

Creating a crossover: Conditions for BUY (for SELL use the opposite condition) - select the condition that you feel more comfortable with. (These are just some definitions. If you search online you can find more. If you find an indicator that uses a crossover that you like you can use it - just import it into the Strategy Builder.)

> 1. MA Fast bar 0 > MA Slow bar 0 AND MA Fast bar 1 < MA Slow bar 1 - create 2 TAs joined by AND
>
> 2. MA Fast bar 1 > MA Slow bar 1 AND MA Fast bar 2 < MA Slow bar 2
>
> 3. MA Fast bar 1 > MA Slow bar 1 AND MA Fast bar 2 < MA Slow bar 1

When we say MA Fast bar 0 > MA Slow bar 1 - it means ma indicator value when shift = 0 > ma indicator value when shift = 1 ; 0 is the current bar, 1 is the previous bar, 2 is the bar before the previous bar. A trading diagram for a ma crossover looks like:
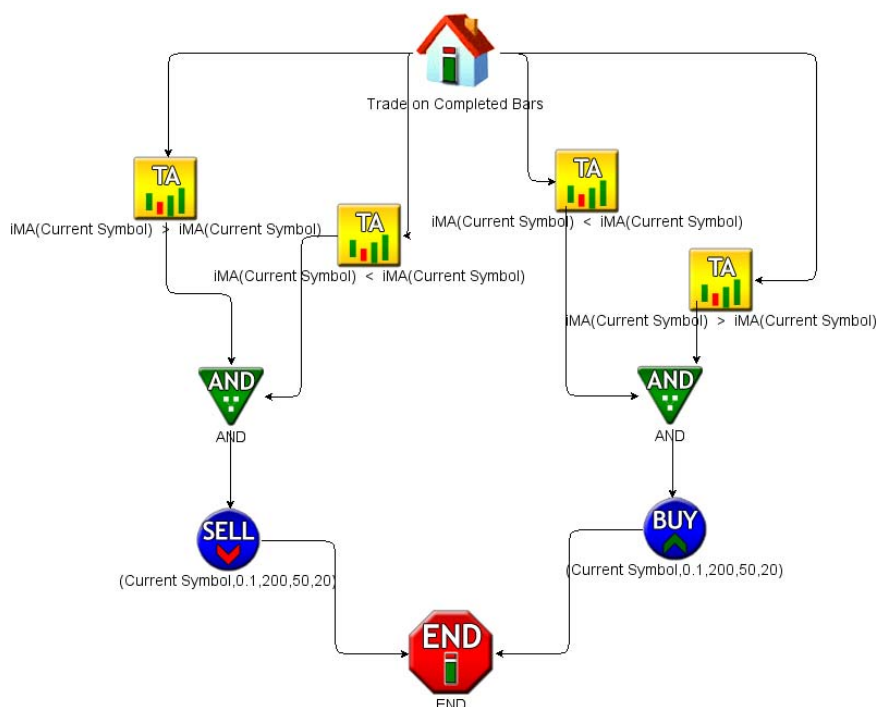

How can you make it easier? How can I wait for the next signal using a simple condition MA fast period> Ma slow period? How can I enter the trade in a fresh signal?

The answer to all those questions is use the next trade management feature.

The Trade Management feature controls the next trade execution. If you use the default option, nothing will happen. If you select "Wait until an opposite trade is opened", a trade will be executed but the next trade will be executed if the last trade is an opposite trade.

Confused? Let's go over the ma example again but now with the next trade management feature:

Let's say you are using the simple MA strategy: *A TA icon with the trading condition MA period 9 > MA period 18, connected to a BUY icon (A similar setting for SELL).*

Trade on Completed Bars
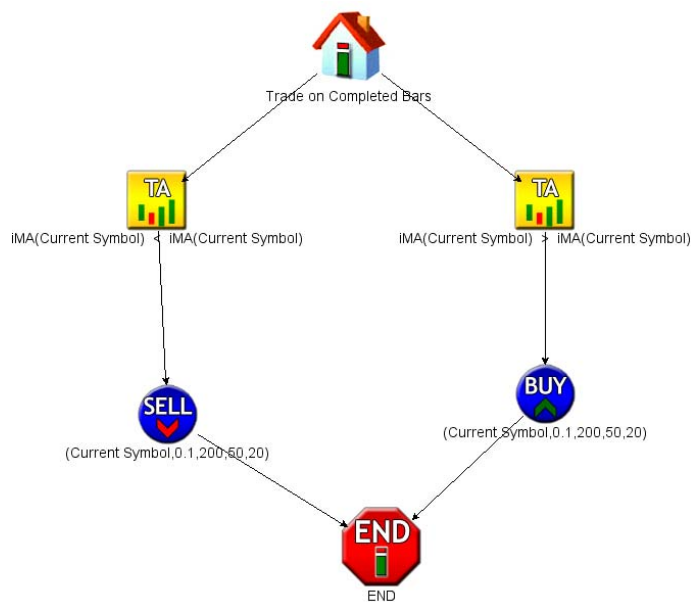
But now in the BUY and SELL icon change the Trade Management parameter to "Wait until an opposite trade is opened". At one point, MA period 9 is higher than MA period 18, so a new position is opened (with a 150 pips tp and 50 pips sl). After a while, the position reaches its tp and it is closed with a gain of 150 pips. Then, on the next bar, MA period 9 is higher than MA period 18 BUT A NEW POSITION IS NOT OPENED. Why? You are using the next trade management feature. A long position was opened and closed with a gain of 150 pips; to open a new long position a short position has to be executed before. Thus this simple strategy behaves like a complex ma crossover because it uses the Trade Management option.

If you use this feature, defining complex trading conditions is easier. Please take a look at our examples page at Molanis.com. There you will find a simple ma strategy and a simple ma strategy that uses the next trade management feature so it behaves like a ma crossover.

Please check the EA Signal Builder icon information later in this guide for easier ways to build a crossover.

Dynamic Stops

In many cases, having a hard/fixed stop in a dynamic market does not make much sense. Why would you place the same 20-pip stop in both a quiet market and one showing volatile market conditions? Similarly, why would you risk the same 80 pips in both quiet and volatile market conditions?

ATR and the Standard Deviation measure the market volatility. They give an idea of how far an asset's price is expected to move. Thus they can be used to determine how far away a profit target/stop loss can be placed from the entry.

For example, the blue line in the chart below shows an ATR value of 29 pips (or 0.0029). The volatility of the price has an average of 29 pips over the last 56 hours (The chart is a 4 hour chart and the ATR has a period of 14 so 4*14=56)

Traders can expect the price on a given 4-hour period to move by 29 pips. If the trend that you are observing has exceeded 29 pips, then the trend has a higher probability of coming to an end. On the other hand, a volatility stop is strategic as it allows you to place a stop at the price point that is outside the normal expected volatility of the Forex pair. Therefore a volatility SL gives you the required logical exit in case the trade goes against you.

By multiplying the ATR or the Standard Deviation by a constant (multiplier), you ensure that your stop is dynamic and changes appropriately with market conditions.

The Strategy Builder uses the following logic to create the dynamic stop:

-Calculate the ATR or the Standard Deviation in pips

-Multiply it by a multiplier. In Forex typical multipliers can go from 2 to 6 or more.

-Round the result to get a pip value without decimals

-If the result is higher than the maximum stop then the maximum stops is used

-If the result is lower than the minimum stop, then the minimum stop is used

The minimum and maximum values for the dynamic stops are boundaries created as variables in MT4 to allow the EA to place a stop that is accepted by the Server. For example, if the calculation "round number of (ATR * Multiplier)" is 5 pips and the server only allows TP starting at 20 pips, the order will be invalid. If the minimum value is set to 20 pips then 20 will be used instead of 5 and the server will accept the order. You can also define a maximum number for the stop but it is not required.

To use dynamic stops in your Expert Advisor, set them up in the dropdown menu of the SELL+ or BUY+ icon. Type the amount to be used as the minimum stops, in the chart below 20 pips is used. Thus both the TP and SL will be dynamic ATR stops that use a minimum value of 20 pips.

Every SELL+ and every BUY+ icon that use dynamic stops will generate MetaTrader variables for you. This gives you control on the dynamic stops parameters.
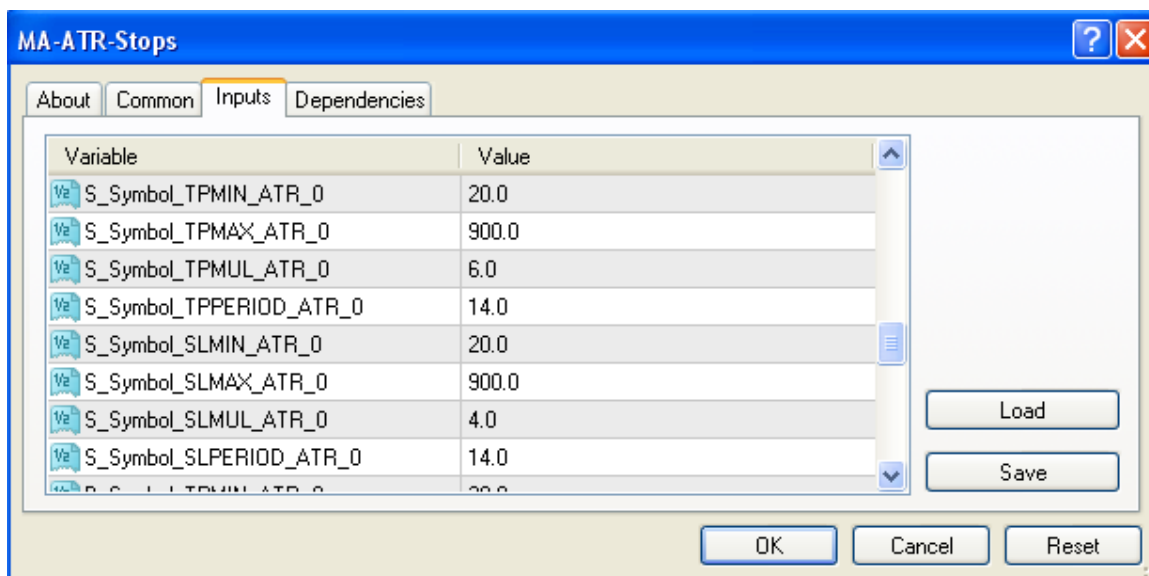
MT4 variables have a naming convention like:

S_Symbol_TPMIN_ATR_0

S_Symbol_TPMIN_ATR_0, S or B identify a Sell or a Buy

S_**Symbol**_TPMIN_ATR_0, Symbol is the symbol used in trading

S_Symbol_**TPMIN**_ATR_0, TPMIN identifies the variable. The following options are available:

-A minimum in pips (TPMIN or SLMIN). If the calculation of the dynamic stop is lower than the minimum then the minimum amount is used.

-A maximum in pips (TPMAX or SLMAX). If the calculation of the dynamic stop is higher than the minimum then the maximum amount is used.

-A multiplier (TPMUL or SLMUL). Used to increase the ATR or Standard Deviation value. The lower the timeframe, the higher the multiplier to obtain stops that are accepted by the server.

-A period (TPPERIOD or SLPERIOD). This is the period used in the ATR or Standard Deviation calculation.

S_Symbol_TPMIN_**ATR**_0, ATR identifies the stop type between ATR and Standard Deviation

S_Symbol_TPMIN_ATR_**0**, 0 Keeps track of the number of SELL+ or BUY+ icons

Importing Custom Indicators into Molanis Strategy Builder

You can add any well-written custom indicator into the Strategy Builder with the Import Custom Indicator feature.

Under a TA block, select Custom Indicator – iCustom, and then click on Import Custom Indicator
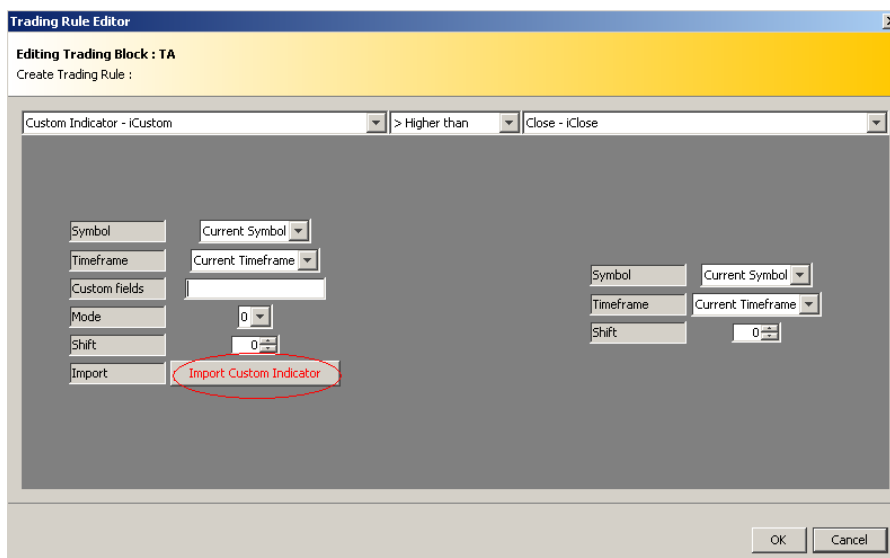
Select the custom indicator you want to import. Custom Indicators must be located in the indicators directory (C:\Program Files\MetaTrader 4\experts\indicators for standard installations of MT4). When an EA is executed, it looks for the compiled indicators (.ex4 file) in the indicators directory.

To use the import feature you need the .mq4 file (indicators code). The import feature does not work on .ex4 files (compiled indicators).
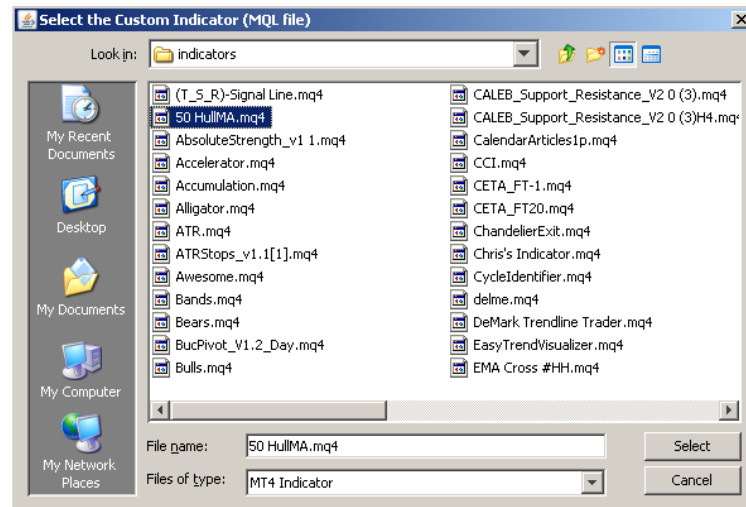
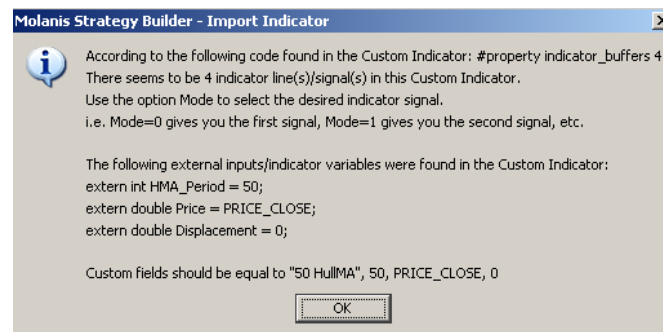The import custom indicator feature reads the indicator code and based on standard rules of coding gets the number of modes (signals) and the indicator parameters. This feature cannot select the mode or shift for you. It's your job to know the right signal and parameters for your EA

In Custom Indicators – iCustom, What is mode and shift?

Mode: It's a line index that ranges from 0 to 7. MT4 allows up to 8 indicator lines per custom indicator. Mode is used to identify one of the available indicator lines. If you have 8 lines in your graph, each one gives you an output. With mode you select the line you need. Most of the time indicators have one line so 0 should be used. (i.e. If you have three indicator lines and you want to use the second line output, 1 should be used. Remember that a number from 0 to 7 should be used)

Shift: Shift relative to the current bar the given amount of periods ago. If you want the value of the indicator but for the previous bar you use a shift of 1. To obtain the value for the current bar, 0 should be used. This feature is used when comparing the value for the current bar with the value of the previous bar.

See some custom indicator examples here

http://www.molanis.com/forum/viewtopic.php?f=3&t=162

Some MQL Review

(Just to put things into context – If you do not want a technical explanation on custom indicators please skip this section)

The idea of Molanis products is to avoid writing/learning MQL code. However, we explain a bit here to put things into context.

If you look at the code of an EA you could find something like this:

iCustom("EURUSD", PERIOD_M1, "SampleMolanis",14,1,0)

iCustom is the MQL command that calls a custom indicator and return its value.

MetaQuotes iCustom official documentation includes the following:

double iCustom(string symbol, int timeframe, string name, ..., int mode, int shift)

Calculates the specified custom indicator and returns its value. The custom indicator must be compiled (*.EX4 file) and be in the terminal_directory\experts\indicators directory.

Parameters:

symbol - Symbol the data of which should be used to calculate indicator. NULL means current symbol.

timeframe - Timeframe. It can be any of Timeframe enumeration. 0 means the current chart timeframe.

name - Custom indicator compiled program name.

... - Parameters set (if necessary). The passed parameters and their order must correspond with the declaration order and the type of extern variables of the custom indicator.

mode - Line index. Can be from 0 to 7 and must correspond with the index used by one of SetIndexBuffer

shift - Index of the value taken from the indicator buffer (shift relative to the current bar the given amount of periods ago).

Sample:

double val=iCustom(NULL, 0, "SampleInd",13,1,0);

Thus from iCustom("EURUSD", PERIOD_M1, "SampleMolanis",14,1,0) we can obtain:

Symbol="EURUSD"

Timeframe=PERIOD_M1

Name="SampleMolanis"

Parameters=14

Mode=1

Shift=0

Pay attention to the "..." option (Parameters). Custom indicators have parameters; probably you use them but are not aware. Widely used examples of parameters are the period for an MA and the K and D periods for stochastic. Parameters are all inputs that change the value of the indicators. Parameters are those variables that you play with to get the best set up for your custom indicator. In this case the only parameter is 14. For a second imagine another custom indicator with two parameters. It could be something like this:

iCustom("EURUSD", PERIOD_M1, "SecondSampleMolanis",8,1,1,0)

In that case: Parameters=8,1

The above is just to illustrate the case for indicators with more than 1 parameter. Let's go back to iCustom("EURUSD", PERIOD_M1, "SampleMolanis",14,1,0) and dig into some points.

Shift is which bar the calculation is being performed upon. Bars are numbered 0, 1, 2, 3, 4, 5, 6, 7... as you go back in time on the chart. Changing the shift option is similar to moving the indicator line into the future or the past.

If you want the value of the indicator but for the previous bar you use a shift of 1. To obtain the value for the current bar, 0 should be used. For example to get the direction of the trend you could use:

MA now shift=0 (current bar) > MA one bar ago shift=1 (previous bar)

If the above trading condition is true, it means trend is up!

In plain English, use:

shift = 0 to get the indicator's value of the current bar (still forming)

shift = 1 value on the previous bar

shift = 2 value in a bar before the previous bar

Mode is a line index that ranges from 0 to 7. MT4 allows up to 8 indicator lines (signals) per custom indicator. Mode is used to identify a specific line/signal of the available indicator lines (signals).

Visualize this: Your indicator has 8 lines/signals (or arrows) with different colors: Each line gives you an output; each line has a value. With mode you select the line (signal) that you need for your EA (just one out of eight). Most of the time, indicators have only one line/signal so mode=0 should be used.

The tricky part is this one: Because MT4's index goes from 0 to 7, mode takes values from 0 to 7.

So the first signal has a mode=0 (and not 1)

In plain English:

If your indicator has three indicator lines/signals and you want to get the value for the first line, you use mode=0, the value for the second line/signal is obtained with mode=1, and mode=2 will get the value for the third signal.

To recap, iCustom("EURUSD", PERIOD_M1, "SampleMolanis",14,1,0) gives you:

-the indicator value of the custom indicator SampleMolanis (this means there is an indicator in the indicator directory called SampleMolanis.ex4 and the code for the indicator can be found in SampleMolanis.mq4)
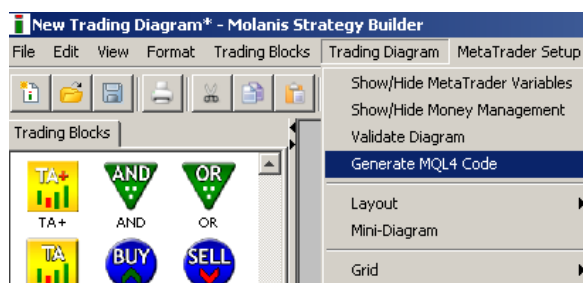
-with a period (Parameter) of 14

-for the pair EURUSD

- from a 1 minute chart (PERIOD_M1)

-value obtained from the second signal (mode=1)

-from the current bar (shift=0)

Do not worry, the Strategy Builder will help you to integrate custom indicators into your ea, just remember the reasons behind iCustom and the integration process.

Generating the MQL code for MetaTrader

On the Trading Diagram Menu, click on Generate MQL4 Code to get the MQL4 Code window.
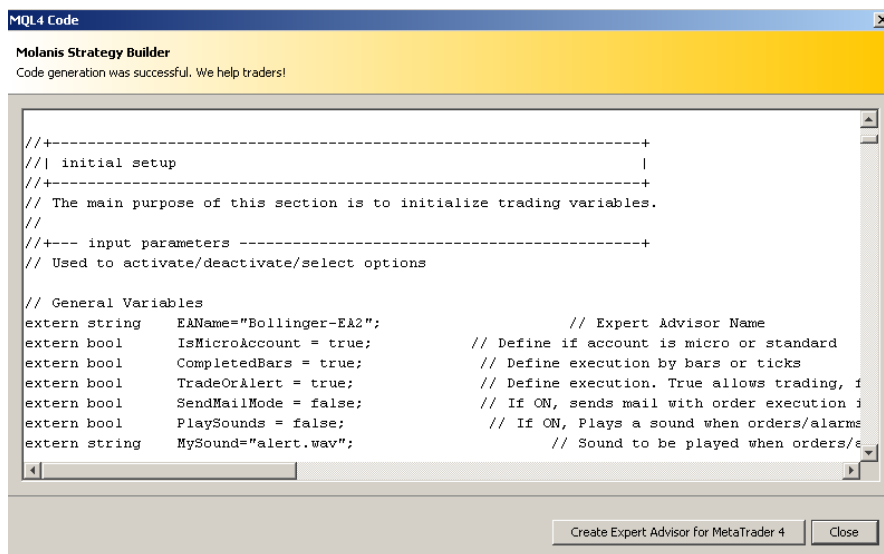
Molanis Strategy Builder allows you to open your expert advisor directly with MetaTrader.
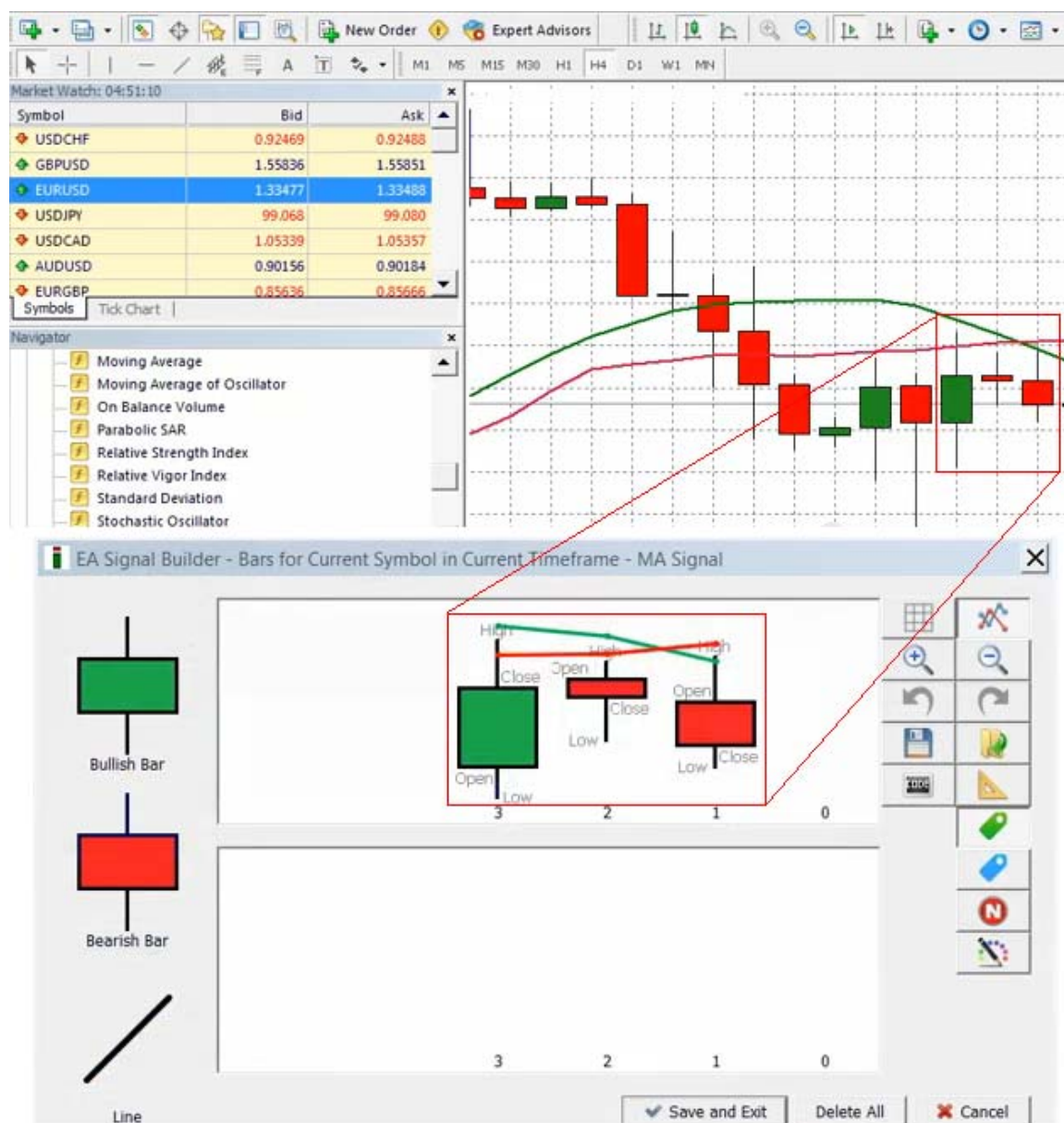
EA Signal Builder

Overview

SB

The EA Signal Builder is an icon that uses the latest technology of visual coding so you can create your trading signals visually. **THIS ICON IS ONLY AVAILABLE IN PRO VERSIONS.**

The EA Signal Builder is a real WYSIWYG signal builder. WYSIWYG is an acronym for "What You See Is What You Get". It means that you can create your own Forex signals copying what you see in a trading chart.

The image above represents a moving average crossover with a bar reversal. This signal was created replicating the chart from MetaTrader in the EA Signal Builder.

> Check the EA Signal Builder video tutorial and examples at www.molanis.com

The EA Signal Builder allows users to create trading signals. Those signals act as triggers to execute actions like BUY and SELL. The following trading diagram shows a basic EA.
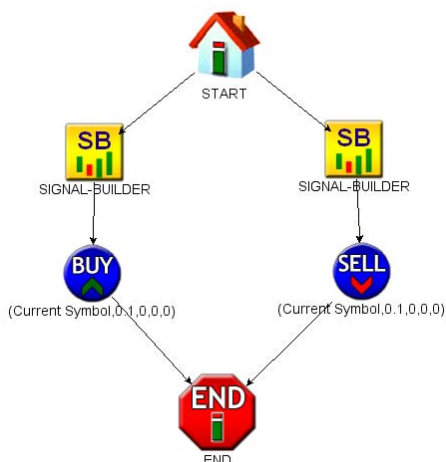
The EA Signal Builder icon is used like the TA and TA+ icons. You can connect it to any trading icon in the Strategy Builder to create powerful Expert Advisors.

Interface

The EA Signal Builder has two main panels: The bar panel and the lines panel. In the bar panel you create signals based on bars and indicators. In the line panel you create signals based on indicators.

Creating Signals is really simple just drag bars and indicator lines, and drop them into the panels. Adjust the price in the bars using your mouse and define the indicator values for the lines.
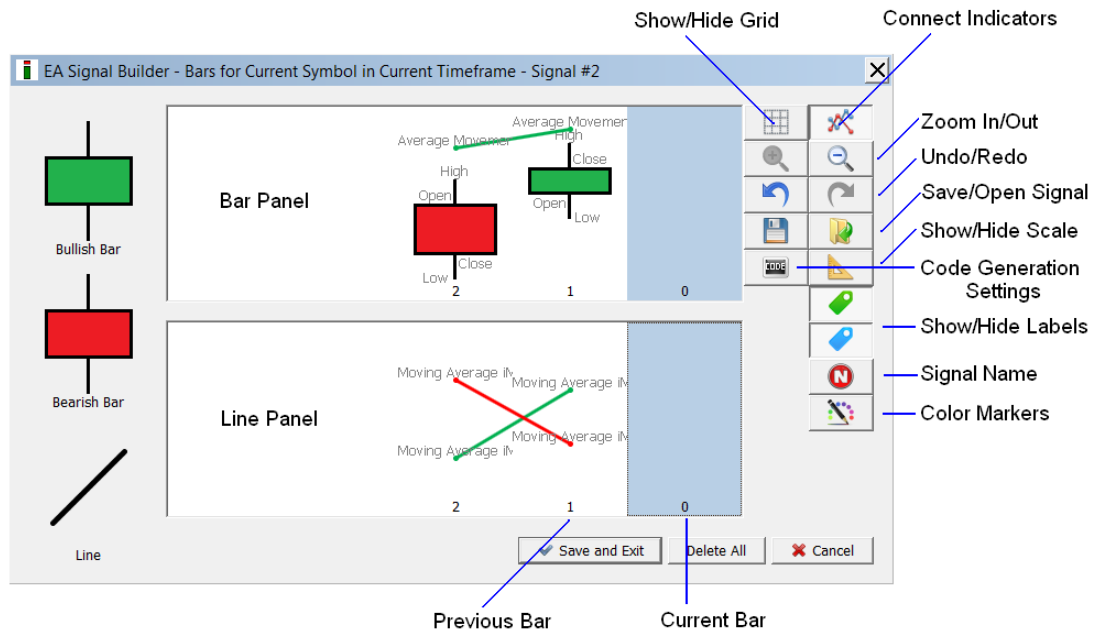
Main Options

-Show / Hide grid : The grid is important because it helps when comparing points located in different positions
-Connect Indicators : You can connect indicators that are defined for consecutive positions
-Zoom in / Zoom out
-Undo / Redo
-Save / Open Signals : You can save your signals as files to be reused in other strategies or to be shared with other traders
-Code Generation Settings : This is the place where you can define different options related to code generation. **Users should use color markers as the preferred option for creating signals.**
-Show / Hide scale : The scale is only required and only provide valuable information if you add lines with numeric values or constants i.e. line = 25 If you are not using lines with numeric values or constant the scale will generate an automatic scale for you to have a relative sense of point locations.
-Show / Hide bar labels : Shows bar prices
-Show /Hide line labels : Shows a summary of the line value (usually a short description of the indicator)
-Signal Name : A place to define the signal name as a short text
-Color markers : To activate / deactivate color markers.

Multi currency - Multi timeframe Signals

There are more options using the mouse right click button. The "Change Instrument and Timeframe" allows users to set up the bars for a specific currency and timeframe, which is recommended only for multi currency multi timeframe eas.
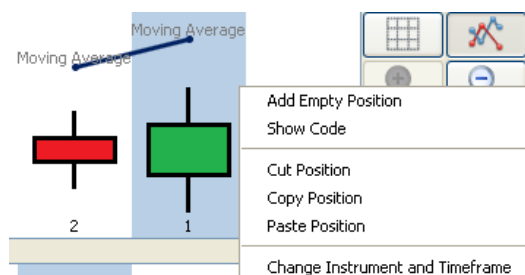
The window title shows the pair and timeframe for the signal. If you are not creating multi timeframe or multi currency you should not assign a pair or timeframe to your signal. This way it will work for any currency and any timeframe.

Bar Position

The bar positions correspond to the bar id. i.e. 0 is the current bar, 1 is the previous bar. Most of the time it is recommended to avoid using position 0 (current bar) unless you trade ticks or your indicator values are calculated using the open price.

Tooltips

Tool tips are shown at any point placing the mouse cursor on top of an icon and waiting for a second. Tool tips explain the icon's purpose.
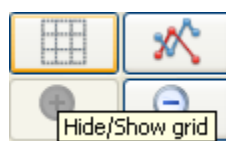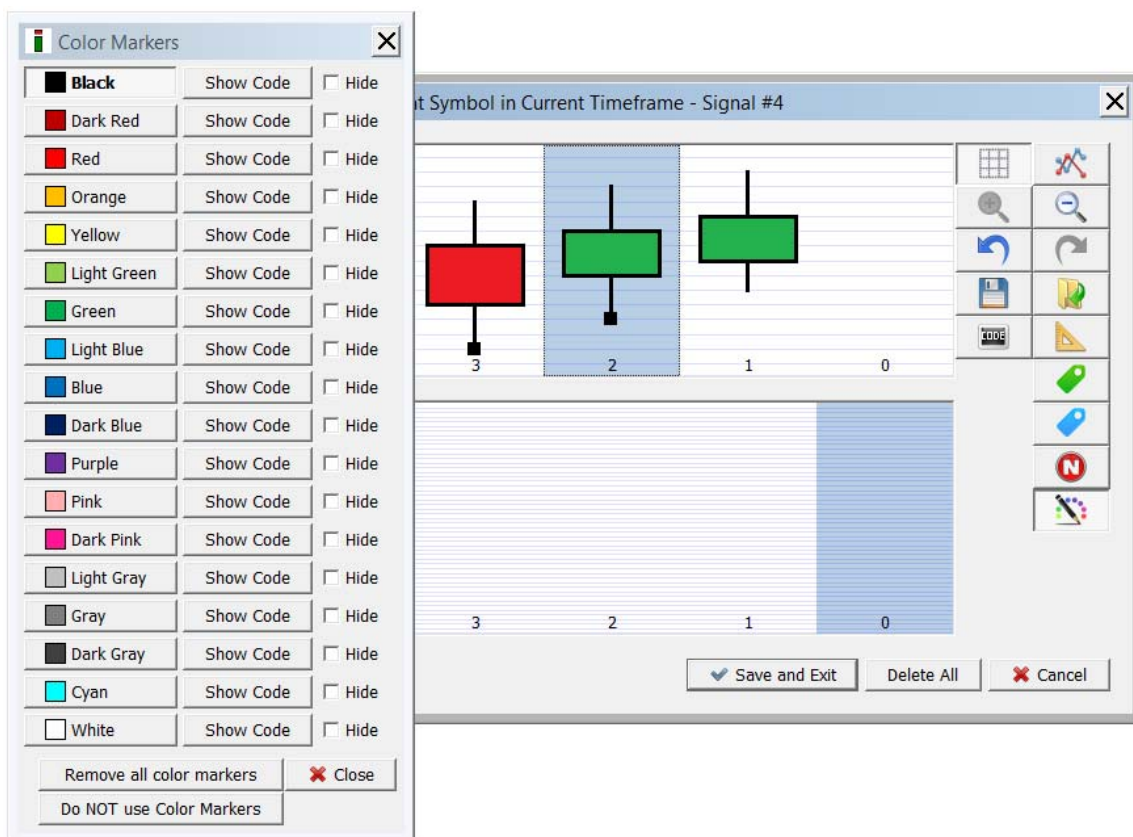

Color Markers

The best feature of the EA Signal Builder is the possibility to use color markers to define your signals point by point. Select a color, mark a point in a bar or in an indicator line. Mark a second or more points and the EA Signal Builder will generate code that compares the marked points.
We realized that the easiest way to define what to compare in a chart is just adding markers - color markers. Users can select a color, mark a point (a bar price and/or indicator), and mark a second (or more points); and the EA Signal Builder will generate code that compare the marked points.

Please be aware that color markers for lines are not shown if you select the option "Show as Candlestick chart."

Color Markers : Signal Example
The following signal is made of one bearish bar, followed by two bullish bars that make higher highs and higher lows.

To start add the bars to the chart, and select color markers. Then select black as the color for Color Marker.

To add the black color market, click on the Black color option on the left, and then click on the low price of bar 3. Then click on the low price of bar 2. At this point the black color marker is comparing the low price of bar 3 and the low price of bar 2.

If you click on the Show Code option for the Color Marker black a window shows this code:
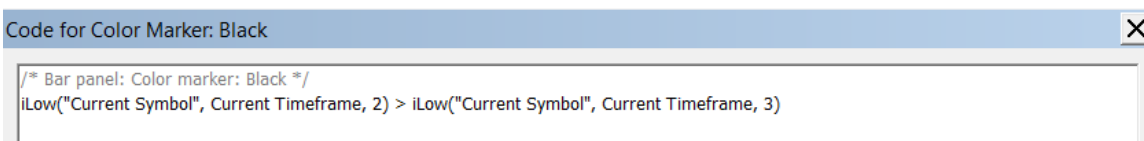
The code can be explained as "The low price in the bar in position 2 is higher that the low price of the bar in position 3"

If you continue and mark bar 1 with the black Color Marker and then with a new Color Marker Blue you mark the high of the bars you end up with a signal like:
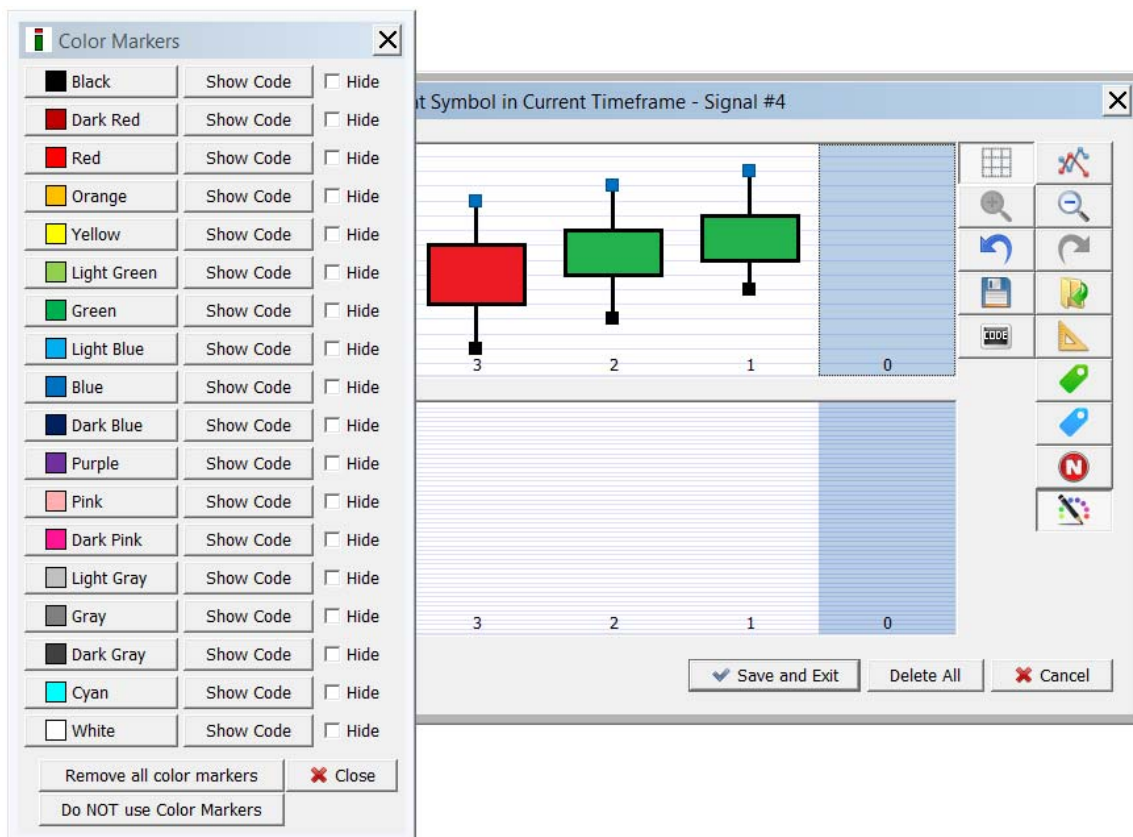
Two different color markers were used. One to compare the high prices, and one to compare the low prices. You need to use a color marker per logic sequence.

Please note that position 0 is not used for the following reasons:
-If you trade bars, trading conditions are evaluated at the open of the current bar (bar 0). At that time Open=High=Low=Close since the current bar is formed by one tick – the open tick
-The current bar (bar 0) is forming; it changes every time you get a new tick (price update). Thus signals that use the High, Low, and Close price in the bar 0 are not reliable since those prices may change. Indicators and signals that only use the open price are reliable.
-If you trade ticks all signals from the current bar (bar 0) are temporal and may change. Thus you may get many false signals (Signals that change)
-Many traders know the issues related to trading the current bar and decide to trade it anyway since the benefits outweigh the downsides.

The reasons mentioned above are related to the way MT4 works and not to our products.

If you use color markers, all other options to compare lines, bars and prices will be inactive.
Under Code Generation Settings the Color Markers have one option:
Generate Code to identify bullish and bearish bars.

If that option is checked, the generated code will add code to identify the direction of the bar i.e. Open > Close for red/bearish bars or Close > Open for green/bullish bars
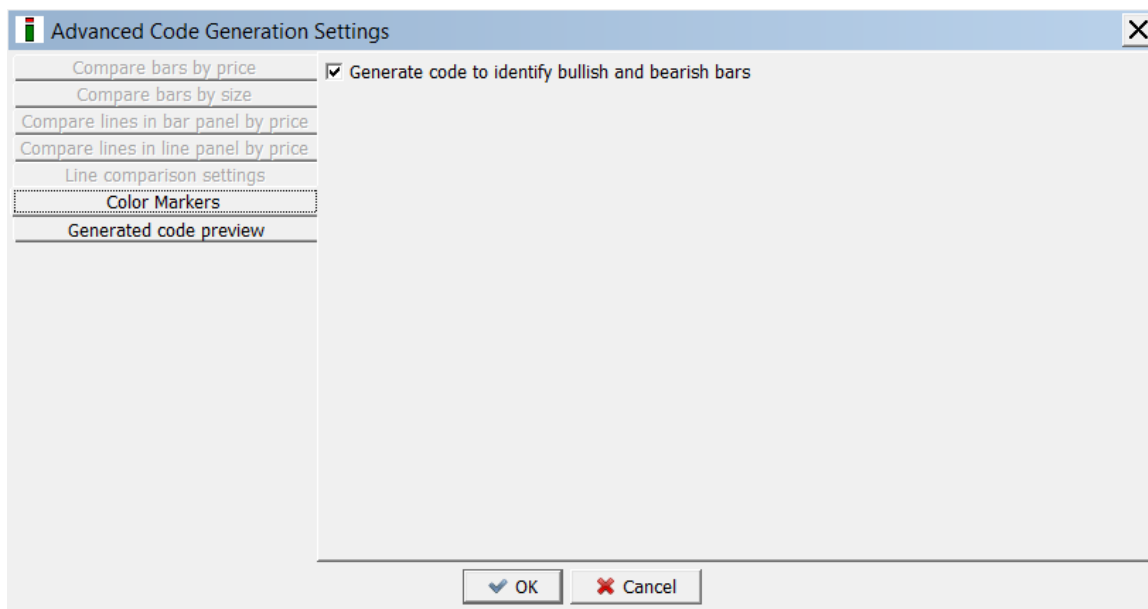
In the following image the first three lines of code identify a bearish/red bar in position 3, and two bulish/green bars in positions 2 and 1.
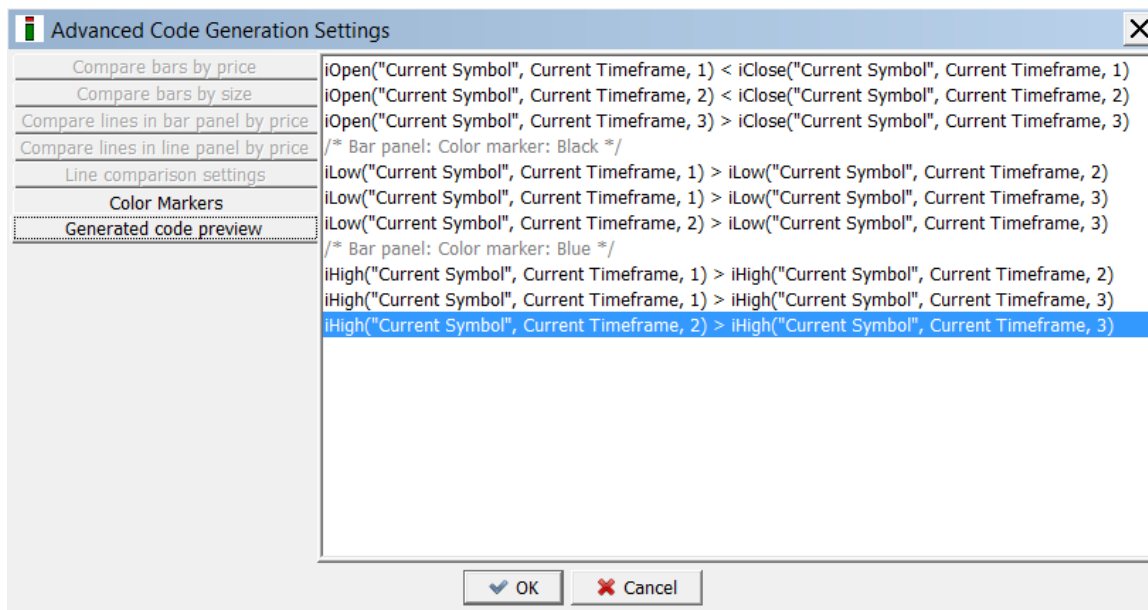
If you unmark the option under code settings "Generate Code to identify bullish and bearish bars.", the generated code will omit those three lines.

Users are encouraged to only use the Color Markers since they are simple to use and really powerful. Expert users are also encouraged to use the Code Generation Settings that are more complex and require a better understanding of automated trading.

Sharing Signals

You can share signals saving them as files that are ready to be used when creating expert advisors with the Strategy Builder

Lines

When you drag and drop a line into the panels, a new window is opened for you to select the technical indicator associated to the line:
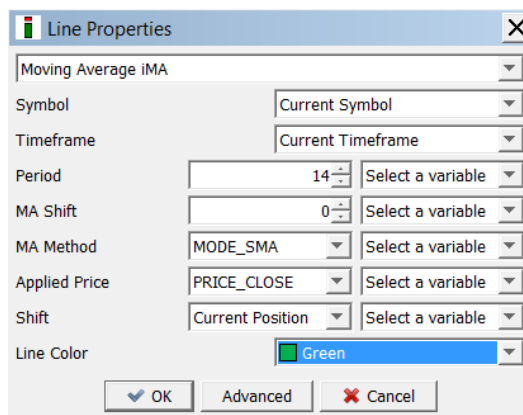
If you want to use custom indicators, look for the option custom indicator under the drop down menu. Then click on the Import Custom Indicator button.
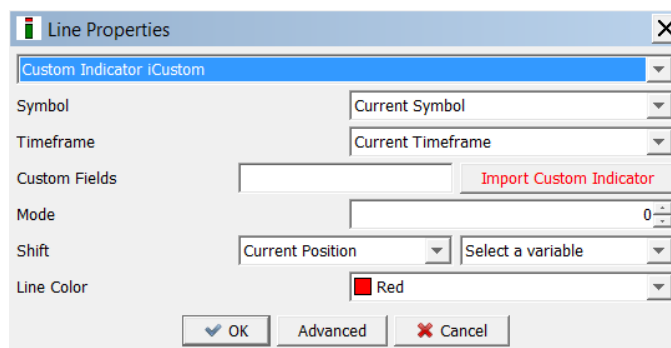
Advanced lines

Use the Advanced line editor to create complex signals and formulas. The EA Signal Builder will understand your signals generating the code for your Expert Advisor.

To create an advanced line click on the Advanced button

A new window opens. Click on the + green icon to add a new item to the equation. Select + and from the drop down menu select Close
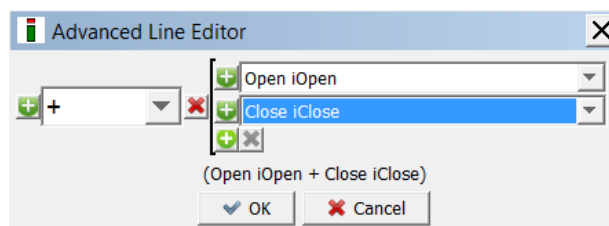
So far the indicator line will have a value equal to Open + Close. Click on the + green icon on the left. Select / and then select user defined number from the drop down menu.
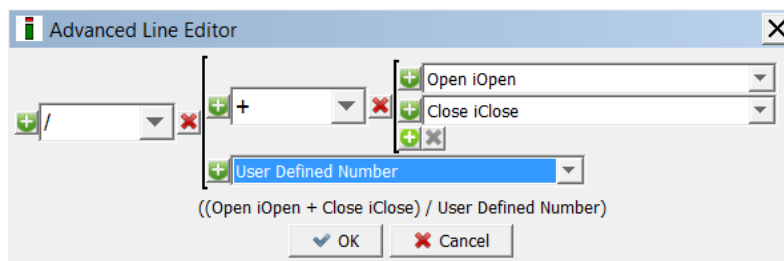
The line now has a value of (Open + Close / A number). If you set the user defined number to 2, the line value will be the average of the Open and Close prices (Open + Close) / 2
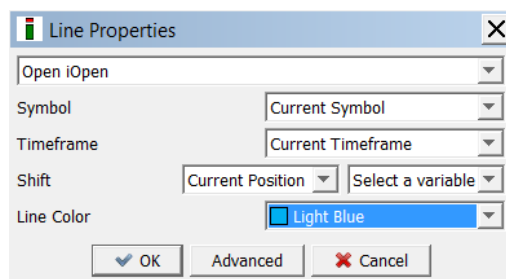
Advanced Code Generation Settings

In the code generation settings, one can define how the bar comparison, line comparison, and bar-line comparison takes **place when Color Markers are not being used.**

Users are encouraged to use color markers first instead of the Advanced Code Generation Settings since they are simpler and more powerful.

The following example shows how to use the Advanced Code Generation Settings: Add two bars to the bar panel. Move the bar prices until they look similar to the following chart.
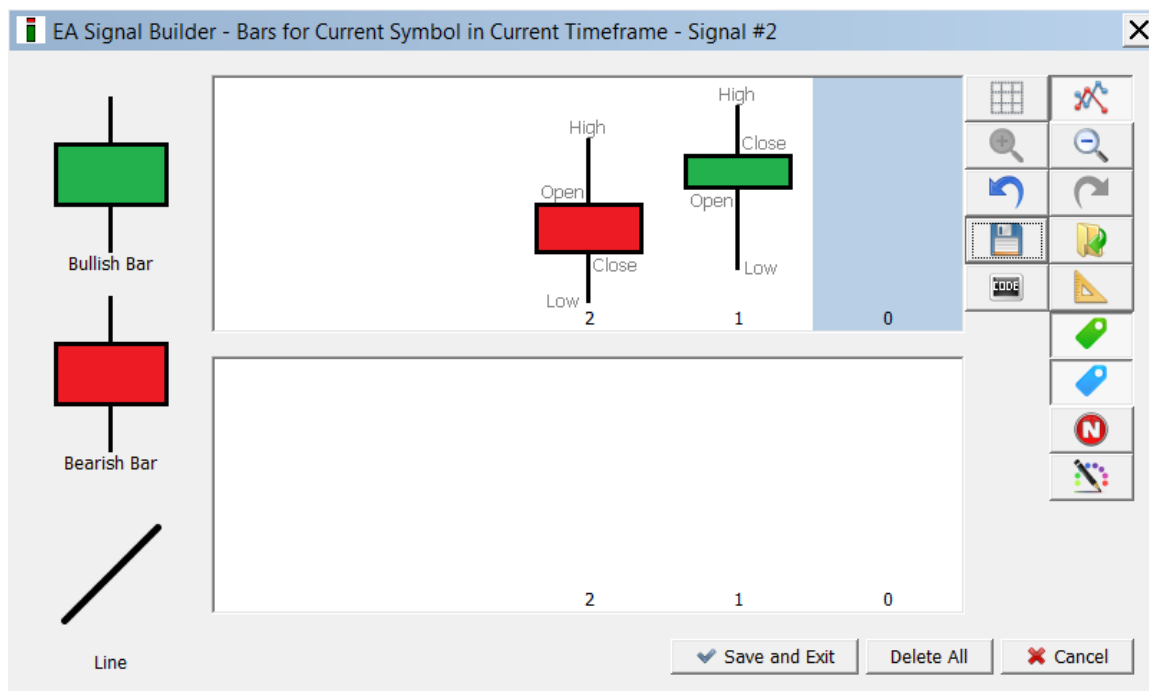
If you go to the Advanced Code Generation settings and click on code preview you will see code that identifies a bearish bar followed by a bullish bar. No other price comparison is made by default.
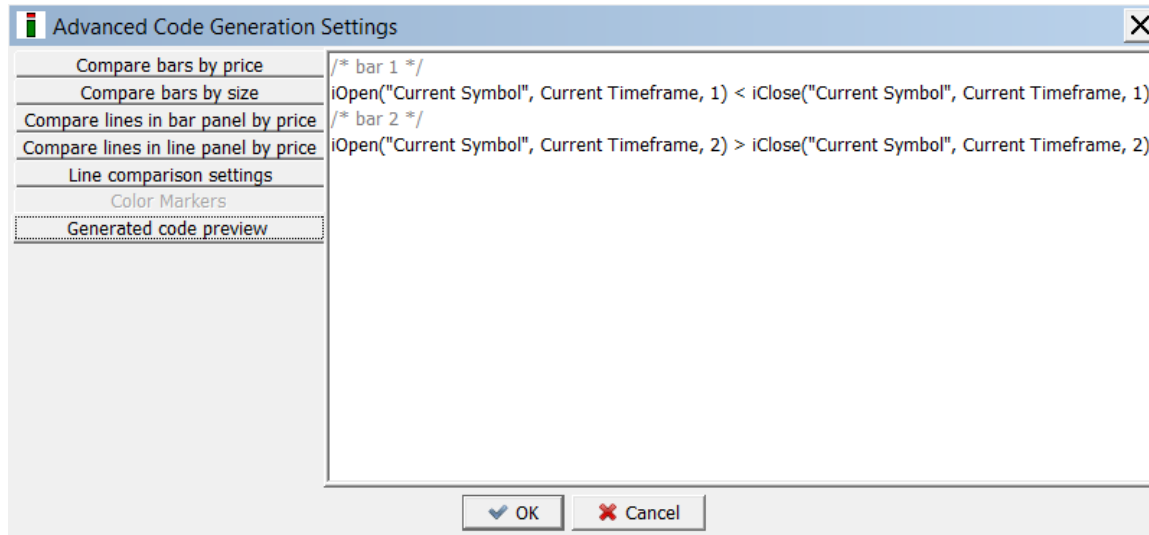
To compare the prices of the two bars, go to Compare bars by price, and add a comparison between position 1 and position 2 as shown in the following image:
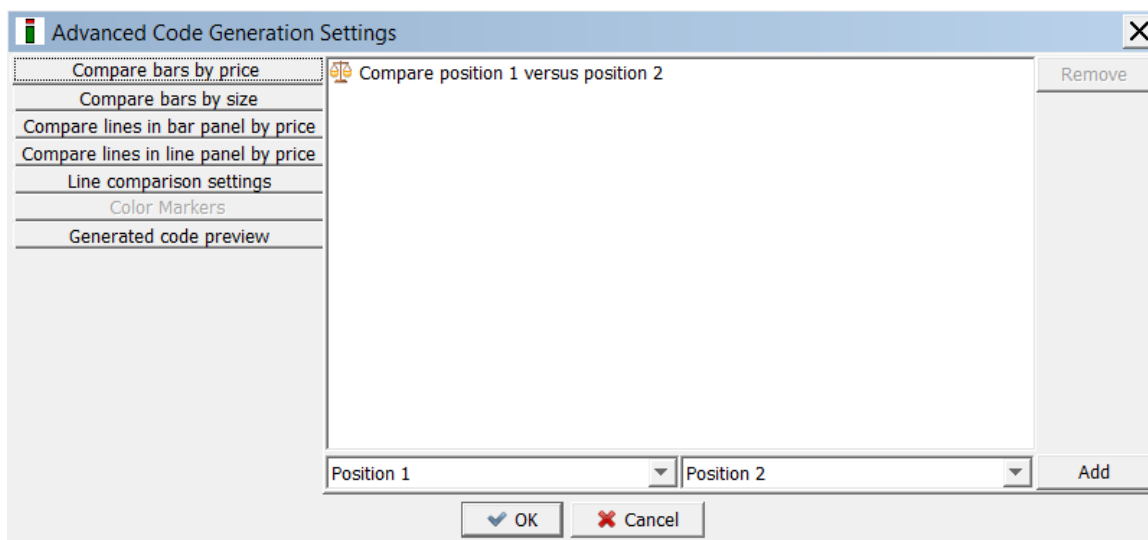
Now a comparison between the two bars prices is made and the generated code looks like:
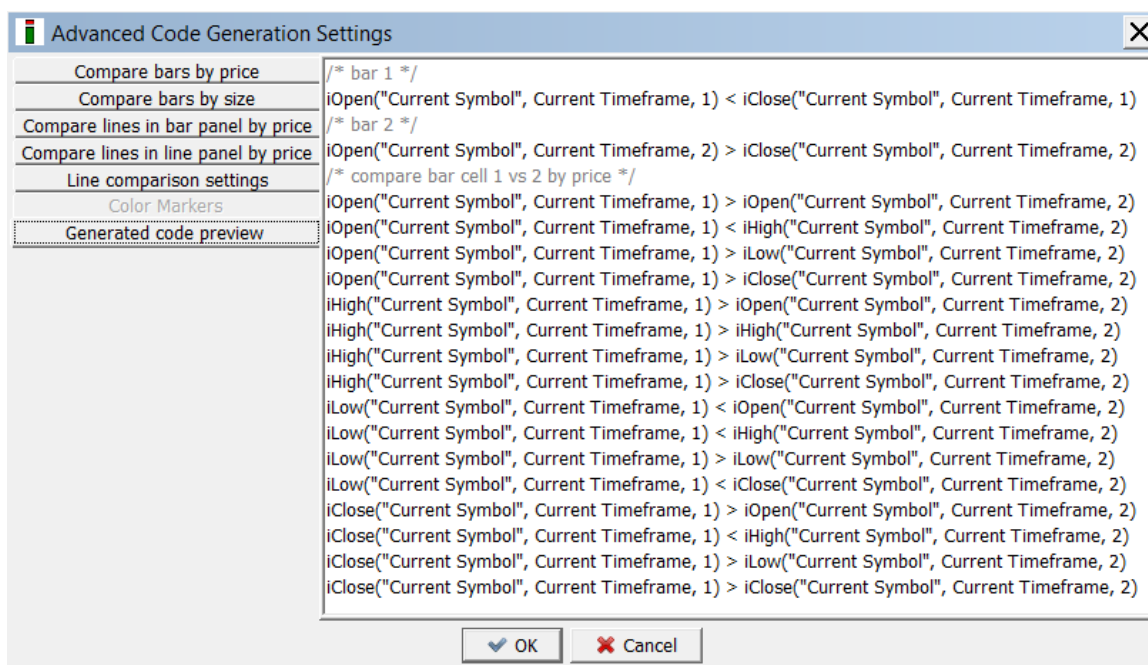
Every price point of the bullish bar is compared with every price point of the bearish bar.

If you also want to compare the relative size of the bars, go to Compare bars by size and add a comparison between position 1 and position 2:
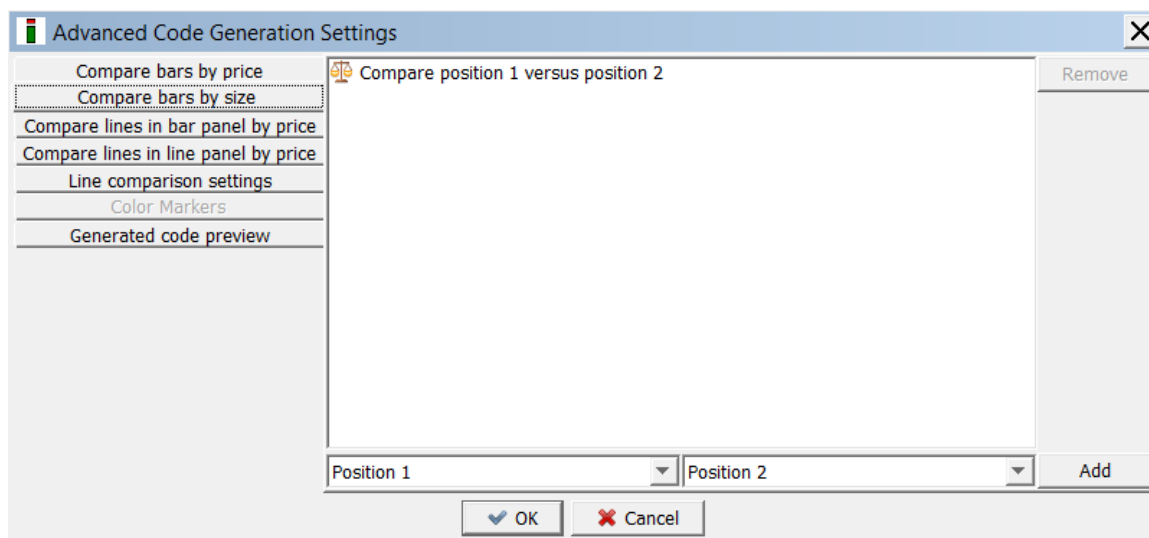
The relative size is calculated using the grid distance
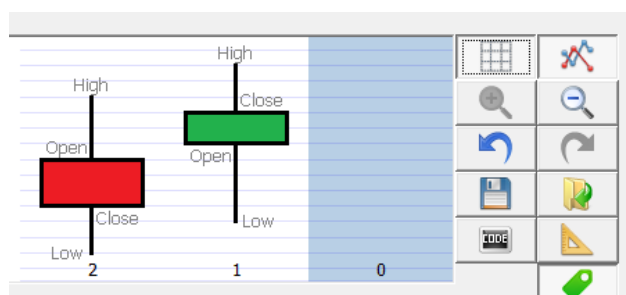
Manual code edition for advanced users

If you are familiar with MQL code and want to change the generated code, go to Generated Code Preview and use the mouse right click option to edit each line of code.
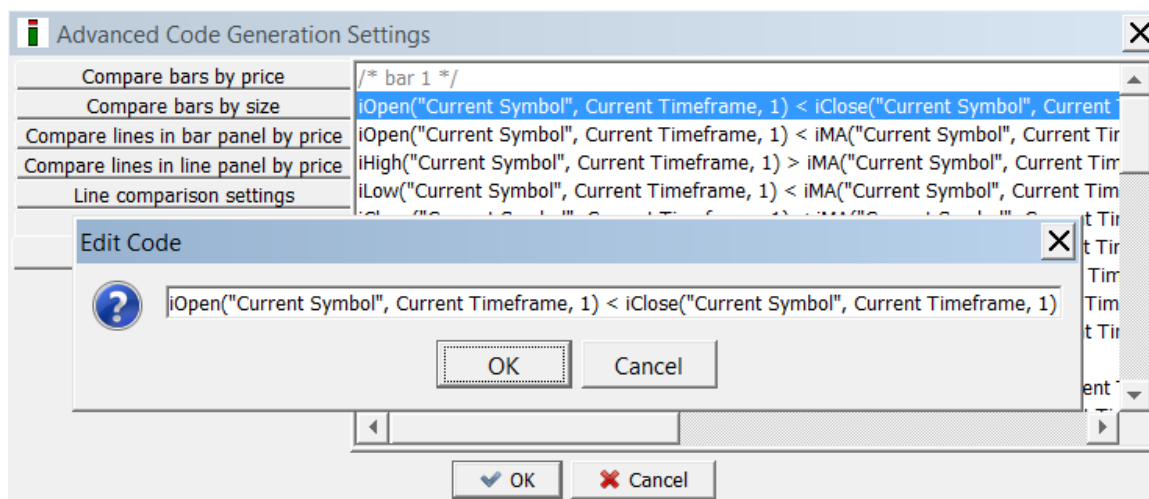
Please be aware that changing the code manually locks the code and new changes to the signal like adding bars and lines will not be reflected in the code.

Line comparison settings

Use these settings to decide if you want to compare lines with lines, lines with bars, and only similar lines.
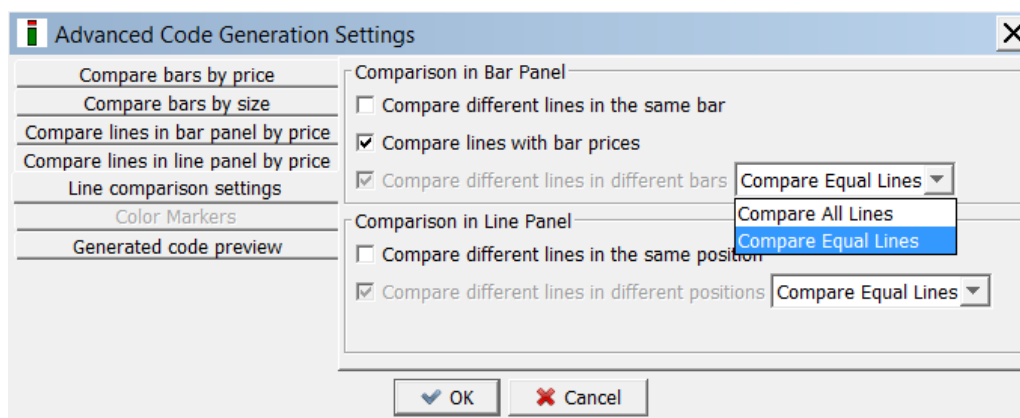
GLOSSARY

EA Expert Advisor - short program written in MQL that implements a forex strategy. EAs are automated programs that invest for you.

MQL - MetaQuotes Language is the language used to write expert advisors (EA, or forex strategies) and technical indicators for MetaTrader.

TRADING BLOCKS - main components of a trading diagram.

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11. Injunctive Relief. The parties agree that if you utilize or otherwise use any of the SOFTWARE in an unauthorized manner, or breach the remaining terms and conditions of this agreement, that such use or breach would have a devastating and serious impact on Molanis' continuing ability to compete profitably and would, therefore, result in immediate and irreparable injury, loss or damage to Molanis. The parties agree that in such event, in addition to Molanis' right to recover damages for a breach of this agreement, Molanis would be entitled to obtain a temporary restraining order or a preliminary injunction from a court of competent jurisdiction to prevent You, your employees, agents, consultants, or independent contractors from engaging in any further use of the SOFTWARE or the continued breach of the remaining terms and conditions of this agreement.

12. Miscellaneous. You acknowledge that Molanis collects and sends to Molanis certain information regarding the users of the Software, including certain personally identifiable information as well as certain information from the user's computer, including certain information about your computer software and hardware such as your IP address, operating system, Web browser software and version. You hereby consent to Molanis' collection and use of such information, and agree that Molanis' collection and use of such information will be governed by Molanis' Privacy Policy.

If you have any questions regarding this Agreement or if you wish to request any information from Molanis please use the address and contact information included with this product or via the web at www.molanis.com

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WARNING: Trading has large potential rewards, but also large potential risk. You must be aware of the risks and be willing to accept them in order to invest. Don't trade with money you can't afford to lose. The past performance of any trading system or methodology is not necessarily indicative of future results. Hypothetical or simulated performance results have certain limitations. Unlike an actual performance record, simulated results do not represent actual trading. Also, since the trades have not been executed, the results may have under-or-over compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight.

The risk of loss in trading foreign exchange markets (FOREX), also known as cash foreign currencies, the inter-bank market or the FOREX markets, can be substantial. You should therefore carefully consider whether such trading is suitable for you given your financial condition. FOREX trading involves substantial risk and is not for all investors. Investments or trading in the FOREX markets can be highly speculative and should only be done with risk capital which you can afford to lose and that, if lost, would not change or adversely affect your lifestyle. The high degree of leverage that is often possible in foreign exchange trading can work for you as well as against you. The use of leverage can lead to large losses as well as gains. ALTHOUGH IT IS POSSIBLE TO PROFIT BY TRADING FOREIGN EXCHANGE, IT IS ALSO POSSIBLE TO LOSE 100% OF YOUR DEPOSIT.