

ULTIMATE BREAKOUT SYSTEM MANUAL



Introduction:

Welcome to the Ultimate Breakout System!

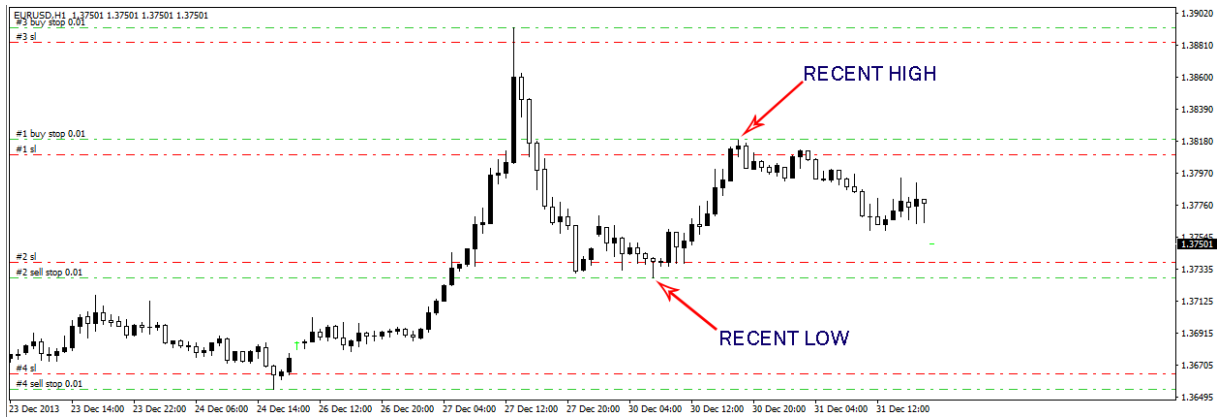
The title for this EA is not just chosen as a sales pitch. I truly believe this system is one of the best, if not THE best breakout system on the market. It has been in development for more than 8 years in total, and I personally used it to create over more than 60 working strategies that I use daily in my many private trading accounts.

The system is fully customizable with a huge variety of parameters to optimize, both for entry and exit of trades. It can basically be used for creating unlimited strategies for any market, and for any timeframe.

Ofcourse, a good system, without a proper manual on how to use it, is almost worthless, so I will include a full description, on how to create your own strategies, that have the highest probability of making profits in real live trading accounts.

So let's get to it!

What is a breakout strategy?



The strategy itself is rather simple from a visual perspective. The EA will detect important support and resistance levels (recent highs and lows that stick out), and will put pending stop orders at those levels, which will be triggered when price breaks through those levels.

Each trade can be set up with a SL, TP, various TrailingSL options, and also a TrailingTP option

This breakout strategy had been used for decades by professional technical traders already. Longterm this is one of the most consistent strategies in trading in my opinion.

For swing systems, this can be used on higher timeframes, like H4, Daily or even Weekly charts

For scalping systems, this can be used for lower timeframes, from H1 to M1.

Why is this strategy such an effective one? Because it follows market structure during trends. When markets trend, they are either making higher highs, or lower lows. For this, they simply must break through the support and resistance levels. And since so many traders keep an eye on these levels, either to enter the trade on the breakout, or their stoplosses get triggered, it becomes a self fulfilling prophecy.

How to install the EA:

If you purchased it directly on the MT5 Market, the EA will be installed automatically on your MT4/MT5 platform. You only need to set it up on the charts.

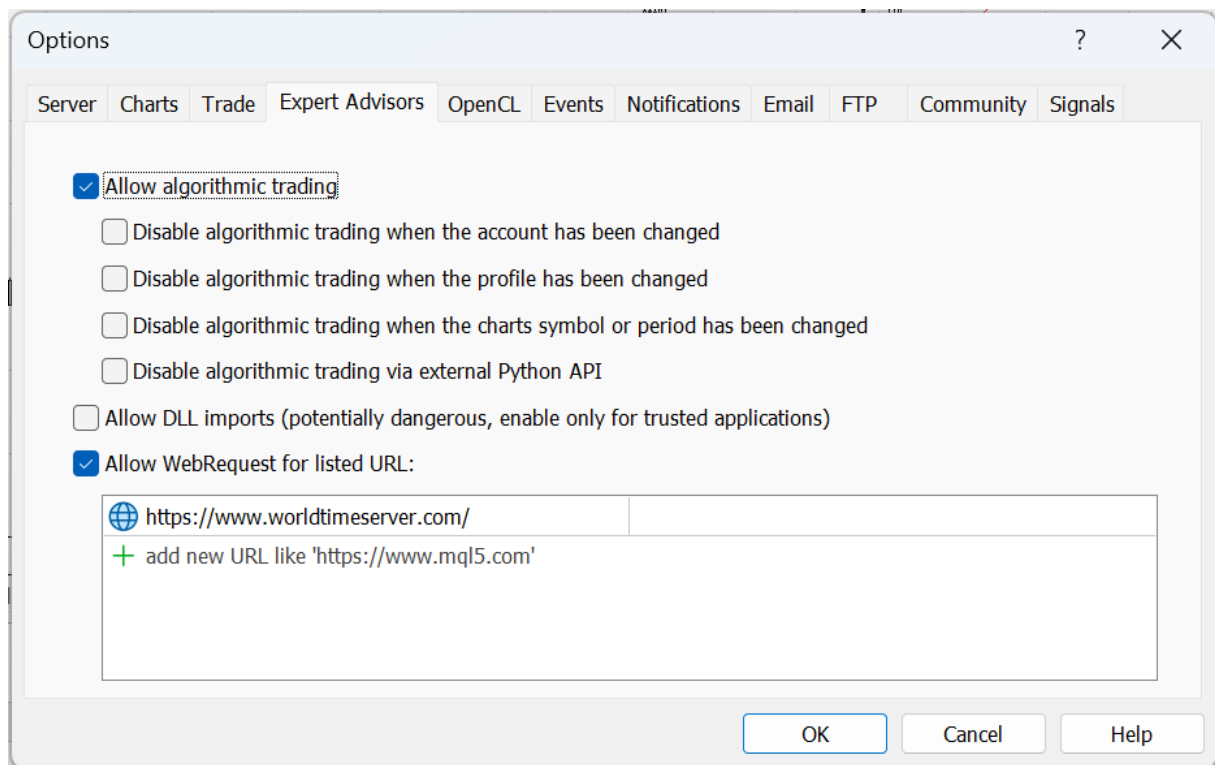
If you purchased on MQL5.com then you need to install it on the MT5 platform first:

- First go to MT5 -> Tools -> Options -> Community -> Fill in your MQL5 credentials
- Then go to MT5 -> Market -> Purchased -> Ultimate Breakout System -> Install

If you received the ex5 file directly from me -> please go to your MT5 -> FILE ->

OPEN DATA FOLDER -> MQL5 -> EXPERTS -> advisors -> put the EA file here in this folder. Then restart your MT5. It is now available in your experts window.

Getting the MT5 platform ready for trading: Go to MT5 -> Tools -> Options -> Expert Advisors and set it up like this:



The URL <https://www.worldtimeserver.com/> must be added as indicated, in order for the AutoGMT to work. This is necessary when using the news filters

Broker choice: For optimizations and backtesting, I mostly use Metaquotes demo account. They have very good historical data for Forex and Gold. For Indices, I used ICMarkets, since the data from Metaquotes didn't seem good enough. Keep in mind that many brokers don't have good historical data, so it is usually recommended to use Metaquotes data for most optimizations.

First use of the EA

The default parameter settings of the EA, are the result of an optimization that I ran for EURUSD Daily chart, so you can use it to run some backtests and get a feel of how the EA works. (a full description of the parameters is available in the end of this manual.)

This default set can also be used for live trading, as it is a solid strategy already. I have used a +10 year out of sample period in the creation process of this set, so I'm confident it will uphold during live trading as well.

I recommend running a visual backtest of using default settings, and see how the EA locates the support and resistance levels, and sets its pending orders at those levels.

You can already start playing around with the entry and exit parameters, to see what effect they have on the trades. This is the best way to learn to understand how the algorithm works.

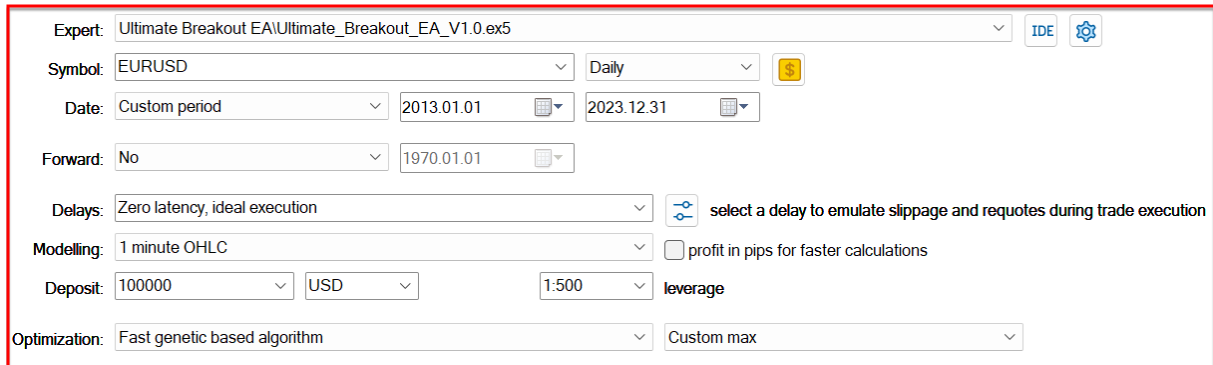
I have also included ALL the parameter sets that I ever developed using this EA. Including those that I used for my breakout system on MQL5 (Daytrade Pro, Goldtrade Pro, Gold Reaper, Goldbot One and Indicement). You also use these already for live accounts to make your own unique portfolio setups.

Most of my set files that I have included are for longterm trading, which means that if you run a backtest, it makes no sense to do very short term backtest. I recommend running at least from 2020-2025, but even from 2000-2025 they should be stable.

Your First Optimization

The main feature of this EA, is ofcourse the ability to create your own strategies, so let's get to it!

First things first: Setting up the strategy tester



Expert: Ultimate Breakout EA\Ultimate_Breakout_EA_V1.0.ex5

Symbol: EURUSD

Date: Custom period 2013.01.01 2023.12.31

Forward: No 1970.01.01

Delays: Zero latency, ideal execution

Modelling: 1 minute OHLC

Deposit: 100000 USD 1:500 leverage

Optimization: Fast genetic based algorithm Custom max

As the picture shows, this is how I like to run most of my initial optimizations.

Date: custom period from 2013 till 2023.

Why? This is a 10 year period, which is sufficient to get some valid strategies, which we can then run on the out-of-sample data (from 2000->2012 and from 2024-2025), to confirm their robustness.

To me, this is one of the most important things to do, for increasing the probability of having a strategy that will work on future markets. We need to know how the strategy runs on unknown markets.

You can play around with the custom periods, to create different strategies. For example you could run an optimization from 2010->2020, and then use 2020-2025 for out of sample period. Different periods will create different strategies.

Forward testing: I don't use this option, because it will force the optimization process to push towards strategies that perform well in-sample and out-of-sample, and will basically result in the same as if you would optimize the full period of in-sample and out-of-sample. I prefer doing a in-sample optimization first, and then using those results to manually test out-of-sample.

Delays: I don't use it for optimization, and rarely for stress testing either. The EA uses pending orders, and delaying the pending order doesn't make any difference to the execution of that pending order.

Modeling: I mostly use 1 minute OHLC quality of modelling when trying to find swing strategies. When trying to make scalping strategies, I would use “every tick using real ticks”, but on a shorter period (ex. 2020-2023). For swing systems, it’s important that you set your parameters for minimum stoploss, takeprofit, trailingSL etc values not too small in pip values. That way, the backtest using 1Minute OHLC will look in line with the “every tick using real ticks” backtest. This is no guarantee yet, so I always run a “check” on a shorter period of time. For example, if I find good strategy parameters on 1Minute OHLC, I would then first run a 2024-2025 backtest on both 1Minute OHLC and Every tick using real ticks, and compare both. They should look more or less the same. That doesn’t mean that the exact value for profits will be the same, but the shape of the growth curve should, and they should ofcourse both be profitable. This is just to confirm that the 1Minute OHLC backtest will be good enough for further testing on that strategy. And only after that validation, I will start doing my out-of-sample testing on the earlier periods (like 2000-2012), using only 1Minute OHLC. Because we now validated that the strategy is reliable to be tested on 1Minute OHLC modelling.

Deposit: I usually set the deposit to 100K. Simply because I don’t want any margin problems etc to affect the trades in the backtest. And I want to compare the profit and drawdown in \$ for each strategy at a fixed lotsize of 0.01lots. I always run my optimizations at 0.01lots (or minimum but anyways “fixed” lotsize). This is because it will make comparing strategies much easier. Your growth curve won’t become some exponential looking curve that doesn’t show the longterm stability. If we know profits and drawdown at 0.01lots, we can easily determine the risk, minimum account balance, and we can easily combine strategies in Quant Analyser for making uncorrelated portfolio’s. This would all be much harder if you use automated lotsize that increases when the account grows. So the deposit size doesn’t really matter, but I make it big enough that it won’t affect the trades in any way.

Optimization: I set this to “fast generic based algorithm”. It will go much faster then trying to do a slow complete (every possible combination) optimization. Also, if you are going to use the MQL5 Cloud for optimization (which I highly recommend to speed up the process), this will cost a lot less, then when using the slow complete optimization. Only after the initial optimization is done, and I want to fine tune some strategies, I will use the slow complete optimization. But usually only when I’m optimizing maximum 2 parameters at the same time (like SL and TP). Because the fast generic one, might have skipped some of the better values for some parameters. Don’t try to over-optimize every parameter. It will lead to a strategy that looks perfect in backtest, but live it will have much bigger drawdowns and less profit than the over-optimized performance in the past. I like more “rough” strategies, when not all is perfect, but at least I know that live should be in line.

Optimization criteria: this is the setting next to the optimization, which is set to “Balance Max” by default. That means that the optimization process will try to go for strategies that have the biggest balance at the end of each test. I sometimes use that one, but usually I use either “recovery factor max”, or “custom max”. Recovery max, will select those strategies that have a good risk/reward. Strategies that recover fast after drawdown. This usually means a nice average profit per trade as well. I like this, because I noticed that using this for optimization, it usually leads to strategies that are not sensitive to spread and slippage, which we prefer ofcourse. Using the “Balance Max” can sometimes lead the optimization process in the direction of strategies that have 1 or 2 huge wins in the backtest, but not a stable growth curve overall. You want your results to be as symmetrical as possible over the multiple years of the test. Not “1 year making almost all the profits”, and the other years very low or in loss. The risk with using “recovery max”, is that it might push forward results that have very few trades. And we need a good sample size of trades to be able to trust the strategy. So the option I’m using the most lately, is the “custom Max” option. This option will use a parameter, which I programmed into the EA myself. It will basically look at 3 things: Number of trades, Recovery Factor and Expected Payoff. These 3 are parameters in the EA (see parameter list in this manual).

So why these 3?

- ➔ Number of trades: because we don’t want strategies that have very few trades in the backtest. Because that would make it much more unpredictable on how the strategies would work in the future.
- ➔ Recovery factor for the reasons mentioned above
- ➔ Expected Payoff, because the bigger this value, the more it will become unsensitive to pricefeed in my experience. I have filled in values for these 3 already in my optimization set files, which I think are a good minimum value for each for the strategies. But you can play around with them. (If you enter value “0” that parameter won’t be used to exclude results if they are below the threshold, but the expected payoff value will still be used for calculation of the “custom Max” results)

Setting the parameters in the EA for optimization:

The best way to start, is using the optimizations-set files that you will have received from me after purchase. These are the ones that I actually used for creating my breakout systems on MQL5. So you'll have optimization-set files for different markets already: Gold, Forex and Indices.

These set files already have good ranges set up for the parameters (for example a stoploss between 30 and 300 pips range). This is important, because when you use bad ranges, it will probably lead to strategies that will look good in backtest, but won't work on live accounts. For example, having a 2 pip stoploss might work well in backtest, but live, the slippage will kill the strategy. So it's good to really think about the ranges you will be using for each parameter, depending on the market and timeframe. You can use my optimization sets as guideline, but ofcourse, ideally you make your own optimization set files with your own approach to have the most unique trading strategies.

All the parameters are explained in the end of the manual, but I will give an overview here below of each "parameter-block", explaining what their main function is, and how to use them, or when not use them during the optimization process.

Variable	Value
<input type="checkbox"/> ShowInfoPanel	true
<input type="checkbox"/> update infopanel during testing	false
<input type="checkbox"/> Adjustment for Infopanel size	1.0

These parameters have only a visual function and are related to the infopanel that shows some information when running the EA on a chart. No use for the optimization process

<input checked="" type="checkbox"/> - - -	----- custom optimization settings ----	
<input type="checkbox"/> expected payoff	0.0	0.0
<input type="checkbox"/> recovery factor	0.0	0.0
<input type="checkbox"/> number of trades	0.0	0.0

The Custom Optimization Settings: These are used, when using the "custom max" as optimization criteria in the strategy tester settings. At value "0", they won't be used. By using them, you will order the strategy optimization process, to filter out and rank strategies based on these 3 parameters. You can set the minimum expected payoff, the minimum recovery factor, and the minimum number of trades you want your test results to have. They will also be ranked using all 3, where the recovery factor has the most weight for the ranking (because I believe it is one of the most important criteria for a good strategy).

<input checked="" type="checkbox"/> - - -	----- spread filter -----	
<input type="checkbox"/> SpreadFilter	false	
<input type="checkbox"/> MaxSpread	3.0	
<input type="checkbox"/> DistForSpreadFilter	2	

Spread filter settings: these can be used to filter out trades based on spread. I don't use this during my optimization process, and I prefer to have no spread filter for initial optimizations. When trying to make scalping strategies, it might have more use.

<input checked="" type="checkbox"/> ---	----- other filters -----
<input type="checkbox"/> Set SL/TP after entry	false
<input type="checkbox"/> use virtual expiration	true
<input type="checkbox"/> Use Virtual SL	OFF
<input type="checkbox"/> hard SL distance when using virtual SL	0.0
<input type="checkbox"/> Move hard SL to virtual SL after X seconds;	0

The “other filters”: these are more interesting for using during real trading, and not optimization process. (description in the parameter list further down in this manual)

<input checked="" type="checkbox"/> - - -	----- Variable Values settings -----	
<input type="checkbox"/> Default ATR value	0.0	0.0
<input type="checkbox"/> ATR Period	30	30
<input type="checkbox"/> ATR Timeframe	1 Day	current
<input type="checkbox"/> default price for calculation	0.0	0.0

The Variable Values settings: one of the features that makes my product stand out I believe. These parameters can be used for markets that have a tendency to continuously reach higher prices over the years. For example: Gold, Indices, Bitcoin etc. Using these will make all entry and exit variables (like stoploss, takeprofit, trailingSL etc...) correlated with the ATR or to the actual price (in relation to the “default price” which can be chosen here). Values “0” means disabled. And “ATR” will override “default price”. So if you want to use the actual price of the market compared to default price for adjusting exit values, you must disable the ATR option (with value “0”). To give you an easy example: Let’s say we are optimizing GOLD, and we set “default price for calculation” to “2000”, and a stoploss value to “1000”. That means that the EA will automatically adjust the stoploss to 2000 if GOLD price is at 4000 in the future.

<input checked="" type="checkbox"/> - - -	----- Trade Entry management -----	
<input type="checkbox"/> AllowBuyTrades	true	false
<input type="checkbox"/> AllowSellTrades	true	false
<input type="checkbox"/> Timeframe to use	current	current
<input type="checkbox"/> Entry Timing (when to check for new signals)	1 Hour	current
<input type="checkbox"/> number of inferior candles to the LEFT of High/Low	2	2
<input type="checkbox"/> number of inferior candles to the RIGHT of High/Low	6	6
<input type="checkbox"/> max candles in history to look at	50	50
<input type="checkbox"/> minimum distance away from High/Low	13.0	13.0
<input type="checkbox"/> minimum distance away in percentage	0.0	0.0
<input type="checkbox"/> Extra pips above High for entry	2.0	2.0
<input type="checkbox"/> Extra pips below Low for entry	3.0	3.0
<input type="checkbox"/> Maximum number of pending orders	1	1
<input type="checkbox"/> max number of open trades	1	1
<input type="checkbox"/> Minimum distance between orders	1.0	1.0
<input type="checkbox"/> expiration time(in hours) for pending orders	155	155
<input type="checkbox"/> Magicnumber	1000	1000
<input checked="" type="checkbox"/> Comment for trades	Ultimate Breakout System	

Trade Entry Management: These parameters will be used to determine how the support and resistance levels will be calculated, including which timeframe and which timing should be used for the calculation. But also, how long orders will last before being deleted, how many trades and pending orders should be set, distance between orders. A lot of these parameters are important in the optimization process, to create distinct strategies.

The basic idea of identifying a support and resistance level, is that it should stick out from the candles around it. So, for example, a support level is based on a recent low on the chart. That low must have at least X candles to the left of it, that have higher lows, and at least Y candles to the right of it, that

have higher lows as well. Also, the price must be X pips above that support level, before a pending order is place. We also get to chose where exactly the pending order should be place (X pips above of below the level). And we will also determine how many historical candles will be used for finding these levels. It's good to think about, and look on a chart, to determine which values would be logical. Ofcourse, in my set files, I have already done that, so they can be used straight out of the box. But I believe it's important to understand how the system works, as it will lead to better strategies or to easier correcting existing strategies.

<input checked="" type="checkbox"/> - - -	----- Trade Exit settings -----	
<input type="checkbox"/> Period to check/modify SL/TP	1 Minute	current
<input type="checkbox"/> check every tick	true	false
<input type="checkbox"/> initial stoploss distance	175.0	175.0
<input type="checkbox"/> initial takeprofit distance	120.0	120.0

The Trade Exit Settings: These include the timing for checking when to modify SL, TP and trailingSL options. Also in this block, we can set initial SL and TP of trades. These are ofcourse important to include in optimizations. Keep in mind, that when using the “variable values” settings, these 2 will also be automatically adjust, either to current ATR compared to ATR value set in the “variable values”, or to the relation between current price and “default value” set in the variable values block.

<input checked="" type="checkbox"/> - - -	----- Trailing SL management -----	
<input type="checkbox"/> Trail SL distance	100.0	100.0
<input type="checkbox"/> Trail SL start distance	160.0	100.0
<input type="checkbox"/> Trail SL stop distance	100000.0	100000.0
<input type="checkbox"/> Trail SL step size	0.4	0.4
<input checked="" type="checkbox"/> - - -	----- Trailing TP management -----	
<input type="checkbox"/> Trail TP distance	0.0	200.0
<input type="checkbox"/> Trail TP start distance	0.0	160.0
<input checked="" type="checkbox"/> - - -	----- Break-even SL management -----	
<input type="checkbox"/> Breakeven start distance	115.0	115.0
<input type="checkbox"/> Breakeven extra distance	115.0	115.0

TrailingSL, TrailingTP and Break-Even SL management: These are obvious, and control the modification of SL and TP as price moves in the good or bad direction after the trade was triggered.

Also, these values will be adjusted automatically when using the variable values.

These parameters are most of the time included in my initial optimization process. Though sometimes, I only include TrailingSL for example, and then optimize the other 2 afterwards, when I already have some strategies that seem solid.

<input checked="" type="checkbox"/> - - -	----- HIGH/LOW Trailing SL settings -----	
<input type="checkbox"/> Use only until break-even	false	false
<input type="checkbox"/> Exit_HL_trailingSL_timeframe	current	current
<input type="checkbox"/> number of candles to use	0	0
<input type="checkbox"/> number of inferior candles to the LEFT of High/Low	0	0
<input type="checkbox"/> number of inferior candles to the RIGHT of High/Low	0	0
<input type="checkbox"/> minimum distance to current price	0	0
<input type="checkbox"/> minimum distance to last SL	0	0
<input type="checkbox"/> extra pips distance from HIGH/LOW	0.0	0.0

HIGH/LOW Trailing SL settings: This is a different type of trailingSL. The EA will determine recent support and resistance levels, using these parameters, and it will trail the SL based on those levels. So in an uptrend, it might be interesting to trail the SL to a recent support level. Or, in a downtrend to a recent resistance level. I normally do not include these in my initial optimization, but rather check if they can add stability to my first batch of strategies that I make from my initial optimization.

<input checked="" type="checkbox"/> - - -	----- recovery Trailing SL based on time -----	
<input type="checkbox"/> Trail SL start after X minutes	0.0	0.0
<input type="checkbox"/> Trail SL Distance	0.0	0.0

Recovery Trailing SL based on time: this will start a separate trailingSL, X minutes after the trade is entered. I don't use this one personally

<input checked="" type="checkbox"/> - - -	----- MagicTrail SL settings -----	
<input type="checkbox"/> MagicTrail mode	OFF	OFF
<input type="checkbox"/> Start of Magictrail (in pips)	0.1	0.1
<input type="checkbox"/> number of ticks before modifications	1	1
<input type="checkbox"/> pip movement of magictrail	0.1	0.1
<input type="checkbox"/> extra pips for breakeven stop	1.0	1.0
<input type="checkbox"/> minutes of time delayed magictrail	0	0
<input type="checkbox"/> start distance of time delayed magictrail	0.0	0.0

The MagicTrail SL Settings: These are interesting when developing scalping systems. It's a very aggressive trailing SL, which will basically move the SL X pips closer to the price, with every Y ticks. Regardless if price moves up or down. So, SL will move a bit closer as price moves. I don't often use this during optimization (surely not for swing system), as it requires "every tick using real ticks" to really see the effect of it. This trailingSL option I normally activate on decent scalping strategies, to see if I can improve it even more with this option.

<input checked="" type="checkbox"/> - - -	----- LotSize Settings -----	
<input type="checkbox"/> Adjust lotsize if balance changes X percent	5.0	
<input type="checkbox"/> Risk	Manual Lotsize	
<input type="checkbox"/> manual lotsize	0.01	
<input type="checkbox"/> Max Risk Per Trade	0.0	
<input type="checkbox"/> LotsizeStep	30	
<input type="checkbox"/> maximum lotsize per trade	99.0	
<input type="checkbox"/> Use Equity Instead of Balance	false	
<input type="checkbox"/> OnlyUp	true	
<input type="checkbox"/> CheckMargin	true	

Lotsize Settings: for optimization process, I only use FIXED lotsize (manual lotsize), at minimum lotsize. The reason being that it will make the process of comparing strategies much easier. I like to know what the drawdown and profits are in \$ value, at this lotsize. So, for example, if a strategy has a 200\$ max drawdown at 0,01lots, I know that I need to run at 0,01lots on a 2000\$ account to keep drawdown below 10%. I don't use the lotsize settings during my optimization process.

<input checked="" type="checkbox"/> - - -	----- GMT settings -----
<input type="checkbox"/> Broker_GMT_OFFSET_Summer	3
<input type="checkbox"/> Broker_GMT_OFFSET_Winter	2
<input type="checkbox"/> AutoGMT	true
<input checked="" type="checkbox"/> - - -	----- NFP Filter -----
<input type="checkbox"/> EnableNFP_Filter	false
<input type="checkbox"/> NFP_CloseOpenTrades	true
<input type="checkbox"/> NFP_ClosePendingOrders	true
<input type="checkbox"/> NFP_MinutesBefore	50
<input type="checkbox"/> NFP_MinutesAfter	30
<input checked="" type="checkbox"/> - - -	----- Interest Rate Filter -
<input type="checkbox"/> EnableIR_Filter	false
<input type="checkbox"/> IR_CloseOpenTrades	true
<input type="checkbox"/> IR_ClosePendingOrders	true
<input type="checkbox"/> IR_MinutesBefore	60
<input type="checkbox"/> IR_MinutesAfter	120
<input checked="" type="checkbox"/> - - -	----- CPI Filter -----
<input type="checkbox"/> EnableCPI_Filter	false
<input type="checkbox"/> CPI_CloseOpenTrades	true
<input type="checkbox"/> CPI_ClosePendingOrders	true
<input type="checkbox"/> CPI_MinutesBefore	60
<input type="checkbox"/> CPI_MinutesAfter	120

GMT settings and news filters: Not used during optimization process, but I do check to see the impact of them on the strategies that came out of my optimizations. We want it to have as little as possible negative impact on the performance of the strategy, because else it would mean that the profits from the strategy are based on the movements around these news events. And there is a big chance that live trading will be different, since these events can cause big slippage which isn't affecting our backtests.

<input checked="" type="checkbox"/> - - -	----- Trading hours
<input type="checkbox"/> UseTradingTimeZones	false
<input type="checkbox"/> KillPending	true
<input type="checkbox"/> KillOpen	false
<input type="checkbox"/> Time_Source	Broker
Monday Trading Time	
<input checked="" type="checkbox"/> Monday Start Time	00:00
<input checked="" type="checkbox"/> Monday End Time	23:59
Tuesday Trading Time	
<input checked="" type="checkbox"/> Tuesday Start Time	00:00
<input checked="" type="checkbox"/> Tuesday End Time	23:59
Wednesday Trading Time	
<input checked="" type="checkbox"/> Wednesday Start Time	00:00
<input checked="" type="checkbox"/> Wednesday End Time	23:59
Thursday Trading Time	
<input checked="" type="checkbox"/> Thursday Start Time	00:00
<input checked="" type="checkbox"/> Thursday End Time	23:59
Friday Trading Time	
<input checked="" type="checkbox"/> Friday Start Time	00:00
<input checked="" type="checkbox"/> Friday End Time	23:59
Saturday Trading Time	
<input checked="" type="checkbox"/> Saturday Start Time	00:00
<input checked="" type="checkbox"/> Saturday End Time	23:59
Sunday Trading Time	
<input checked="" type="checkbox"/> Sunday Start Time	00:00
<input checked="" type="checkbox"/> Sunday End Time	23:59

Trading hours: These can be used to have the EA trade only between certain moments of the day. I don't use these parameters often, and not during optimizations (unless you might have a specific intraday strategy in mind ofcourse, that requires these).

Running the optimization

Now it is time to start the first optimization process!

The overall process of finding a strategy that I will use on live accounts can be summarized like this:

- Run the optimization process on a bigger period (for example 2013-2023), using 1M OHLC for modelling
- Run a 2024-2025 backtest using “every tick using real ticks” as a first out-of-sample test, which will also confirm if the 1M OHLC modelling is good enough for further processing of the strategy
- Run another out-of-sample test on a bigger period (2000-2013). This should be quite in line with the optimized period’s performance.
- You could also first do the 2000-2013 out of sample test and then the 2024-2025 real tick test... whatever feels more logical to you.
- Run specific further optimizations on individual parameters (for example: stoploss and takeprofit, Break-even settings, Trailing TP settings.
- Redo out of sample and “every tick using real ticks” stress tests
- Optional: run other stress tests, like different symbol, timeframe, changing up some parameters
- Save the strategy and do the same for the next one.
- Compare all final strategy in Quant Analyzer and make final decision on which one are the best ones to use on demo/live trading

I personally always use the MQL5 Cloud service for running optimizations, since it will greatly improve the speed in which you will get your results.

You can enable them by going to the “agents” tab, right clicking in it, and enabling the MQL5 Cloud network.

Strategy Tester

Agent	Hardware
> Local: 20 cores	
> Local Network Farm	
▼ MQL5 Cloud Network: 17 388 million tasks processed, 26 848 agents available	
☀ MQL5 Cloud Europe 2: 10 gbit	14644 agents available of 14659
☀ MQL5 Cloud Europe 3: 10 gbit	4084 agents available of 4084
☀ MQL5 Cloud USA 1: 10 gbit	7921 agents available of 8105

Select

Use Local Agents

Use Local Network Farm

☒ Use MQL5 Cloud Network

+ Add

⚙ Edit

✕ Delete

✔ Enable

⛔ Disable

✔ Import

🔗 Export

✔ Auto Arrange

✔ Grid

Insert

Enter

Delete

A

G

Overview | Settings | Inputs | Backtest | Graph | Optimization Results | **Agents** | Journal

Now press “start” in the “Settings” Tab and let the process run till the end

Strategy Tester

Expert: Ultimate Breakout EA\Ultimate_Breakout_EA_V1.0.ex5 IDE ⚙

Symbol: EURUSD ▼ Daily ▼ \$

Date: Custom period ▼ 2013.01.01 📅 2023.12.31 📅

Forward: No ▼ 1970.01.01 📅

Delays: Zero latency, ideal execution ▼ ⚙ select a delay to emulate slippage and requotes during trade execution

Modelling: 1 minute OHLC ▼ ☐ profit in pips for faster calculations

Deposit: 100000 ▼ USD ▼ 1:500 ▼ leverage

Optimization: Fast genetic based algorithm ▼ Custom max ▼

Overview | **Settings** | Inputs | Backtest | Graph | Optimization Results | Agents | Journal

00:00:41 / 00:00:41 Start

Once we have our results, I like to go through them and sort them in different ways and then run some tests on those that look interesting.

For example, I first simply sort on “results” column, as this uses the combined criteria parameters of the “custom max” parameters, which are the “recovery factor”, “Expected Payoff”, and “number of trades”. And then I will run some quick backtests on some of the top-ranking strategies (simply double click the optimization results). Just to see how the growth curve looks. We want a strategy that look linear in growth.

Then I will sort for example on “recovery rate” and/or “max drawdown”, as this will have a different ranking. And try to find some other interesting strategies. The idea is that we try to find different strategies that have a different growth curve. It makes no sense to collect only strategies that all look the same. We are trying to find strategies that can be used together in a portfolio. Because, that way, we’ll spread the risk and end up with a more stable growth curve overall.

It’s a good practice to run a backtest on a variety of different results from the optimization process. If you see something that you like, simply save the set file, and save the backtest result. These will be part of the first selection of strategies. Sometimes, I can easily find multiple interesting strategies from 1 optimization process, but sometimes I need to run several optimizations (using different values regarding for example optimization-period, timeframe, and enabling/disabling some of the parameters for optimizations).

Once you have found a bunch of strategies that are worth looking into, we’ll be doing some more extensive tests on these, including “every tick using real ticks” tests and out of sample tests.

“Every Tick using real ticks” test: once I found some results, that look good on my 2013-2023 (example) period, I will my first stress test on 2024-2025, using “every tick using real ticks”. Not only do I want to see if it is in line with longer period backtest, but I will also check and compare it with the “1Minute OHLC” test of that same period.

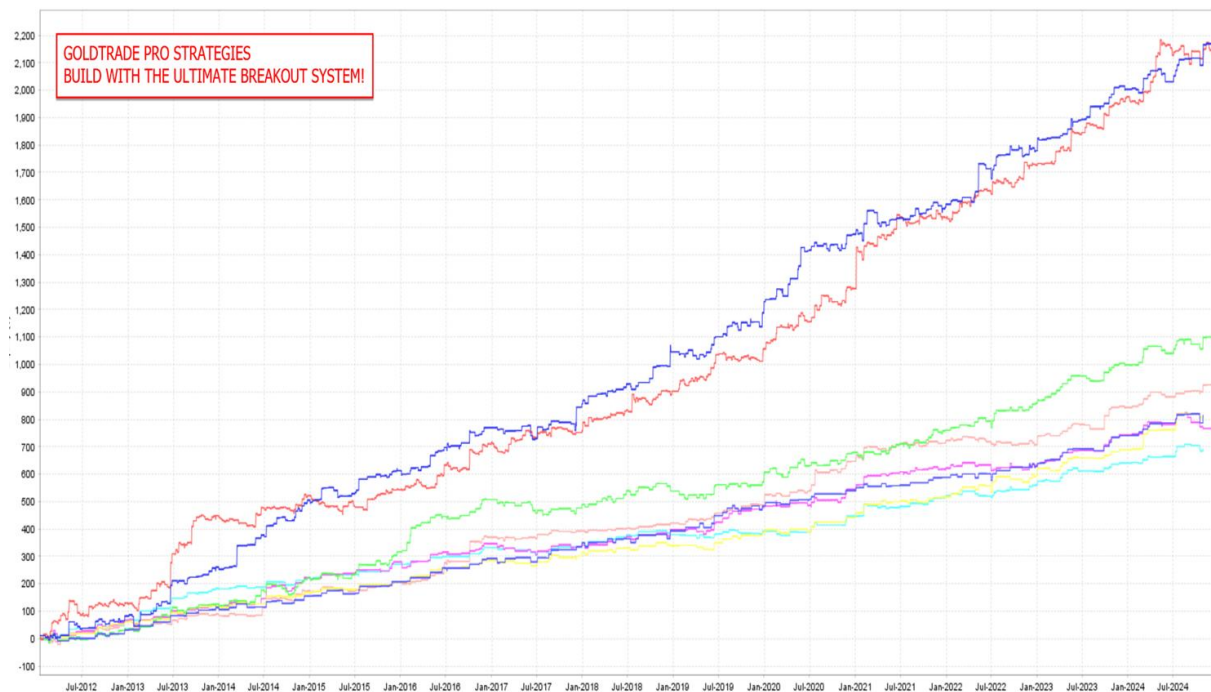
If it is comparable, I will assume that I can use 1Minute OHLC for doing more testing, including the 2000-2013 out of sample stress-test. This is to make sure that the strategy isn’t over-optimized for the 2013-2023 period.

Once this check has been done, I will often do some individual optimizations for some of the parameters. For example, I might run an optimization for the trailingSL options that I didn’t use yet, like the High/Low trailingSL. This is to see if I can reduce drawdown and/or increase profits for the strategy. I might also run an optimization again on other parameters, like SL/TP, trailing SL, or even some entry criteria. Just don’t run too many together in these re-optimizations, as it will create completely different results from your initial strategy.

After I did these individual optimizations, I will recheck the strategy with “every tick using real ticks” and also the out-of-sample stress test. Just to make sure it is still valid and didn’t become over-optimized.

At this point, I consider the strategy a valid one. So I will save it, and go on to the next one of my initial optimization results. Sometimes, I will do some extra stress tests, like running the strategy on a different market and/or timeframe. A working strategy on EURUSD for example, should not give absolutely horrible results on GBPUSD, as they are quite correlated currency pairs. The indices optimizations that I did for Indicement EA, for example, showed very good stability when doing cross-pair tests, which made me confident about their robustness.

So, after I did a bunch these “strategy creating” steps, I will load them all into Quant Analyzer, and compare them. Here I will make my final decision on which strategies I will use, and which ones I will discard. Some of them will look quite the same, so I will choose only one of those similar looking ones. Best case scenario, you have found some uncorrelated ones, that can be run together and create a smoother overall growth curve. This can be seen in my products like Goldtrade Pro for example, where the EA runs 8 strategies, all of which have a different growth curve. And this creates a more stable overall growth.



Next step would be, ideally, to do the entire process again on another market.

Once we have a bunch of strategies, for different markets, we can add them all together again in Quant Analyzer, and see how the portfolio would look like. Once you have a nice portfolio, you can start deploying them on a demo account (or live). The next few days/weeks, after deploying them, it is important to keep comparing the live trade results, with the backtest of that same period. This is to validate again, that the strategy is valid, and that the backtests can be trusted as a guideline of what to expect in live trading.

Parameter Description

Info Panel Settings

- **Show Info Panel**
 - **Default:** true
 - **Description:** Determines whether to display an information panel on the chart showing the EA's status, statistics, and performance metrics such as open profit/loss and total trades.
- **update infopanel during testing**
 - **Default:** false
 - **Description:** If set to true, updates the info panel during backtesting in the Strategy Tester. When false, the panel remains static during testing.
- **Adjustment for Infopanel size**
 - **Default:** 1
 - **Description:** Adjusts the size of the info panel. A value of 1 represents the default size, while values greater or less than 1 scale the panel proportionally.

----- custom optimization settings -----

- **expected payoff**
 - **Default:** 0
 - **Description:** Sets the minimum expected payoff (average profit per trade) required for optimization. If the calculated payoff is below this value, the optimization result is discarded.
- **recovery factor**
 - **Default:** 0
 - **Description:** Specifies the minimum recovery factor (profit divided by maximum drawdown) for optimization. Results below this threshold are rejected.
- **number of trades**
 - **Default:** 0
 - **Description:** Defines the minimum number of trades required during optimization. If fewer trades occur, the result is considered invalid.

----- spread filter -----

- **SpreadFilter**
 - *Default:* false
 - *Description:* Enables or disables the spread filter. When true, the EA checks the current spread against MaxSpread before placing trades.
- **MaxSpread**
 - *Default:* 3.0
 - *Description:* Sets the maximum allowed spread (in pips) for trading. If the current spread exceeds this value and SpreadFilter is enabled, trading may be paused.
- **DistForSpreadFilter**
 - *Default:* 2
 - *Description:* Defines a distance factor (in pips) used in conjunction with the spread filter, so that pending orders are only deleted if price is closer than this to the pending order

----- other filters -----

- **CloseAtDistanceSL**
 - *Default:* Not specified
 - *Description:* Closes trades when the price reaches a specified distance from the stop loss.
- **Set SL/TP after entry**
 - *Default:* false
 - *Description:* When true, stop loss (SL) and take profit (TP) levels are set after a trade is opened rather than at the time of order placement.
- **use virtual expiration**
 - *Default:* true
 - *Description:* Enables virtual expiration for pending orders. If true, expiration is managed internally by the EA rather than using the broker's expiration mechanism.
- **ShowComments**
 - *Default:* Not specified
 - *Description:* sets the trade comment for the trades

Virtual Stop Loss Settings

- **Use Virtual SL**
 - *Default:* VSL_OFF
 - *Description:* Selects the mode for virtual stop loss:
 - VSL_OFF: Disables virtual stops.
 - VSL_BASIC: Uses a standard virtual stop loss.
 - VSL_ADV: Applies virtual stops to all trades except those at break-even.
- **hard SL distance when using virtual SL**
 - *Default:* 0
 - *Description:* Sets the distance (in pips) for a hard stop loss when using virtual stops, providing a safety net beyond the virtual stop level.
- **Move hard SL to virtual SL after X seconds**
 - *Default:* 0
 - *Description:* Specifies the delay (in seconds) after which the hard stop loss is moved to match the virtual stop loss level.

----- Variable Values settings -----

- These are only interesting for markets that continue to grow in value over time. For example: Gold, Bitcoin, Indices, etc. Because the average price and price movements can greatly increase of the years with these markets, it's important that all parameters (like SL, TP, etc..) will adapt to the new characteristics of those markets over time.
- **Default ATR value**
 - *Default:* 0
 - *Description:* Sets a default ATR value (in pips). If greater than 0, it's used to scale other distance-based parameters relative to the actual ATR.
- **ATR Period**
 - *Default:* 30
 - *Description:* Defines the period (number of candles) for calculating the ATR.
- **ATR Timeframe**
 - *Default:* PERIOD_D1 (Daily)
 - *Description:* Specifies the timeframe for ATR calculation (e.g., PERIOD_M1, PERIOD_H1, PERIOD_D1).

- **default price for calculation**
 - *Default:* 0
 - *Description:* Provides a default price value for scaling calculations if ATRDefault is not used. Typically compared against the daily open price.

----- Trade Entry management -----

- **AllowBuyTrades**
 - *Default:* true
 - *Description:* Enables or disables buy trades
- **AllowSellTrades**
 - *Default:* true
 - *Description:* Enables or disables sell trades
- **Timeframe to use**
 - *Default:* PERIOD_CURRENT
 - *Description:* Sets the timeframe for detecting recent highs and lows (e.g., PERIOD_M15, PERIOD_H1).
- **Entry Timing (when to check for new signals)**
 - *Default:* PERIOD_H1
 - *Description:* Defines the timeframe for checking new entry signals (e.g., PERIOD_M5, PERIOD_H1).
- **number of inferior candles to the LEFT of High/Low**
 - *Default:* 2
 - *Description:* Specifies the number of inferior candles to the left of a high/low to confirm its strength.
- **number of inferior candles to the RIGHT of High/Low**
 - *Default:* 6
 - *Description:* Specifies the number of inferior candles to the right of a high/low to confirm its strength.
- **max candles in history to look at**
 - *Default:* 50
 - *Description:* Sets the maximum number of candles in history to look back for identifying highs and lows.

- **minimum distance away from High/Low**
 - **Default: 13**
 - **Description:** Defines the minimum distance (in pips) from the current price to the high/low for a valid entry.
- **minimum distance away in percentage**
 - **Default: 0**
 - **Description:** Sets the minimum distance as a percentage of the high/low level. If 0, the absolute distance is used.
- **Extra pips above High for entry**
 - **Default: 2**
 - **Description:** Adds extra pips above the high for buy entry placement.
- **Extra pips below Low for entry**
 - **Default: 3**
 - **Description:** Adds extra pips below the low for sell entry placement.
- **Maximum number of pending orders**
 - **Default: 1**
 - **Description:** Limits the maximum number of pending orders allowed
- **max number of open trades**
 - **Default: 1**
 - **Description:** Sets the maximum number of open trades allowed at any time.
- **Minimum distance between orders**
 - **Default: 1**
 - **Description:** Specifies the minimum distance (in pips) between consecutive orders.
- **expiration time(in hours) for pending orders**
 - **Default: 155**
 - **Description:** Sets the expiration time (in hours) for pending orders. If 0, no expiration is applied
- **Magicnumber**
 - **Default: 1000**
 - **Description:** Assigns a unique magic number to trades opened by the EA for identification and management.

- **Comment for trades**
 - *Default:* "Ultimate Breakout System"
 - *Description:* Sets a comment for trades, useful for tracking and filtering in the terminal.

----- Trade Exit settings -----

- **Period to check/modify SL/TP**
 - *Default:* PERIOD_M1
 - *Description:* Defines the timeframe for checking and modifying stop loss and take profit levels (e.g., PERIOD_M1, PERIOD_H1).
- **check every tick**
 - *Default:* true
 - *Description:* When true, the EA checks exit conditions on every tick rather than waiting for the Exit_Timing period.
- **initial stoploss distance**
 - *Default:* 175
 - *Description:* Sets the initial stop loss distance (in pips) for trades.
- **initial takeprofit distance**
 - *Default:* 120
 - *Description:* Sets the initial take profit distance (in pips) for trades.

----- Trailing SL management -----

- **Trail SL distance**
 - *Default:* 100
 - *Description:* Defines the trailing stop loss distance (in pips).
- **Trail SL start distance**
 - *Default:* 160
 - *Description:* Sets the distance (in pips) at which the trailing stop loss begins to activate.
- **Trail SL stop distance**
 - *Default:* 100000
 - *Description:* Specifies the maximum distance (in pips) for the trailing stop loss, acting as a cap.

- **Trail SL step size**
 - *Default:* 0.4
 - *Description:* Sets the step size (in pips) by which the trailing stop loss moves as the price advances.

----- Trailing TP management -----

- **Trail TP distance**
 - *Default:* 0
 - *Description:* Defines the trailing take profit distance (in pips). If 0, trailing TP is disabled.
- **Trail TP start distance**
 - *Default:* 0
 - *Description:* Sets the distance (in pips) at which the trailing take profit begins.

----- Break-even SL management -----

- **Breakeven start distance**
 - *Default:* 115
 - *Description:* Specifies the distance (in pips) at which the stop loss is moved to break-even.
- **Breakeven extra distance**
 - *Default:* 115
 - *Description:* Adds extra pips beyond the break-even point for additional profit protection.

----- HIGH/LOW Trailing SL settings -----

- **Use only until break-even**
 - *Default:* false
 - *Description:* When true, the high/low trailing stop is used only until the trade reaches break-even.
- **Exit_HL_trailingSL_timeframe**
 - *Default:* PERIOD_CURRENT
 - *Description:* Sets the timeframe for calculating highs and lows for the trailing stop (e.g., PERIOD_H1, PERIOD_D1).

- **number of candles to use**
 - **Default: 0**
 - **Description:** Defines the number of candles to look back for high/low calculation. If 0, it may use a default or dynamic value.
- **number of inferior candles to the LEFT of High/Low**
 - **Default: 0**
 - **Description:** Specifies the number of inferior candles to the left of the high/low for strength confirmation.
- **number of inferior candles to the RIGHT of High/Low**
 - **Default: 0**
 - **Description:** Specifies the number of inferior candles to the right of the high/low for strength confirmation.
- **minimum distance to current price**
 - **Default: 0**
 - **Description:** Sets the minimum distance (in pips) from the current price to the trailing stop level.
- **minimum distance to last SL**
 - **Default: 0**
 - **Description:** Defines the minimum distance (in pips) required to update the trailing stop from its previous level.
- **extra pips distance from HIGH/LOW**
 - **Default: 0**
 - **Description:** Adds extra pips beyond the high/low level for the trailing stop placement.

----- recovery Trailing SL based on time -----

- **Trail SL start after X minutes**
 - **Default: 0**
 - **Description:** Sets the time (in minutes) after which the trailing stop loss activates. If 0, this feature is disabled.
- **Trail SL Distance**
 - **Default: 0**
 - **Description:** Defines the trailing stop loss distance (in pips) for the time-based trailing stop.

----- MagicTrail SL settings -----

- **MagicTrail mode**
 - **Default:** ST1_MT_M_O (Off)
 - **Description:** Selects the MagicTrail mode:
 - ST1_MT_M_O: Off.
 - ST1_MT_M_F: Full trailing mode.
 - ST1_MT_M_B: Trailing until break-even.
- **Start of Magictrail (in pips)**
 - **Default:** 0.1
 - **Description:** Sets the starting distance (in pips) for the MagicTrail to be activated.
- **number of ticks before modifications**
 - **Default:** 1
 - **Description:** Specifies the number of ticks to wait before modifying the MagicTrail stop.
- **pip movement of magictrail**
 - **Default:** 0.1
 - **Description:** Defines the pip movement increment for the MagicTrail stop.
- **extra pips for breakeven stop**
 - **Default:** 1
 - **Description:** Adds extra pips beyond break-even when using the break-even mode of MagicTrail.
- **minutes of time delayed magictrail**
 - **Default:** 0
 - **Description:** Sets the delay (in minutes) for a time-adjusted MagicTrail stop. If 0, this adjustment is disabled.
- **start distance of time delayed magictrail**
 - **Default:** 0
 - **Description:** Defines the starting distance (in pips) for the time-adjusted MagicTrail stop.

----- LotSize Settings -----

- **Adjust lotsize if balance changes X percent**
 - **Default:** 5
 - **Description:** Adjusts the lot size if the account balance changes by this percentage. Used in dynamic lot sizing.
- **Risk**
 - **Default:** Manual_Lotsize
 - **Description:** Selects the risk calculation method:
 - **Manual_Lotsize:** Uses a fixed lot size (StartLots).
 - **Lots_Per_Balance:** Scales lots based on balance (LotPerBalance_step).
 - **RPT:** Uses a manual risk percentage (Manual_RiskPerTrade).
 - **very_low:** 0.1% risk per trade.
 - **low:** 0.2% risk per trade.
 - **medium:** 0.5% risk per trade.
 - **high:** 1% risk per trade.
 - **extreme:** 2% risk per trade.
- **manual lotsize**
 - **Default:** 0.01
 - **Description:** Sets the manual lot size when Risk is Manual_Lotsize.
- **Max Risk Per Trade**
 - **Default:** 0
 - **Description:** Specifies the maximum risk percentage per trade when Risk is RPT.
- **LotsizeStep**
 - **Default:** 30
 - **Description:** Defines the balance step (in account currency) for increasing lot size when Risk is Lots_Per_Balance.
- **maximum lotsize per trade**
 - **Default:** 99
 - **Description:** Sets the maximum lot size per trade, capping dynamic lot calculations.

- **Use Equity Instead of Balance**
 - *Default:* false
 - *Description:* When true, uses account equity instead of balance for lot size calculations.
- **OnlyUp**
 - *Default:* true
 - *Description:* When true, lot size only increases with balance/equity growth and does not decrease.
- **CheckMargin**
 - *Default:* true
 - *Description:* Enables margin checking before placing trades to ensure sufficient free margin.

----- GMT settings -----

- **Broker_GMT_OFFSET_Summer**
 - *Default:* 3
 - *Description:* Sets the broker's GMT offset (in hours) during summer (DST).
- **Broker_GMT_OFFSET_Winter**
 - *Default:* 2
 - *Description:* Sets the broker's GMT offset (in hours) during winter (non-DST).
- **AutoGMT**
 - *Default:* true
 - *Description:* When true, automatically detects the GMT offset using an external source; otherwise, uses Broker_GMT_OFFSET_Summer or Broker_GMT_OFFSET_Winter.

----- NFP Filter -----

- **EnableNFP_Filter**
 - *Default:* false
 - *Description:* Enables the NFP news filter to pause trading during specified times.
- **NFP_CloseOpenTrades**
 - *Default:* true
 - *Description:* When true, closes open trades during the NFP filter period.

- **NFP_ClosePendingOrders**
 - *Default:* true
 - *Description:* When true, deletes pending orders during the NFP filter period.
- **NFP_MinutesBefore**
 - *Default:* 50
 - *Description:* Sets the number of minutes before an NFP event to start the filter.
- **NFP_MinutesAfter**
 - *Default:* 30
 - *Description:* Sets the number of minutes after an NFP event to end the filter.

----- Interest Rate Filter -----

- **EnableIR_Filter**
 - *Default:* false
 - *Description:* Enables the interest rate news filter.
- **IR_CloseOpenTrades**
 - *Default:* true
 - *Description:* Closes open trades during the IR filter period when true.
- **IR_ClosePendingOrders**
 - *Default:* true
 - *Description:* Deletes pending orders during the IR filter period when true.
- **IR_MinutesBefore**
 - *Default:* 60
 - *Description:* Sets the minutes before an IR event to start the filter.
- **IR_MinutesAfter**
 - *Default:* 120
 - *Description:* Sets the minutes after an IR event to end the filter.

----- CPI Filter -----

- **EnableCPI_Filter**
 - *Default:* false
 - *Description:* Enables the CPI news filter.

- **CPI_CloseOpenTrades**
 - *Default:* true
 - *Description:* Closes open trades during the CPI filter period when true.
- **CPI_ClosePendingOrders**
 - *Default:* true
 - *Description:* Deletes pending orders during the CPI filter period when true.
- **CPI_MinutesBefore**
 - *Default:* 60
 - *Description:* Sets the minutes before a CPI event to start the filter.
- **CPI_MinutesAfter**
 - *Default:* 120
 - *Description:* Sets the minutes after a CPI event to end the filter.

----- Trading hours -----

- **UseTradingTimeZones**
 - *Default:* false
 - *Description:* Enables trading time restrictions based on the specified daily schedules.
- **KillPending**
 - *Default:* true
 - *Description:* Enables pending orders being delete when the non-trading hours kick in
- **KillOpen**
 - *Default:* true
 - *Description:* Enables open trades being closed when the non-trading hours kick in
- **Time_Source**
 - *Default:* TZ_Broker
 - *Description:* Selects the time source for trading hours:
 - TZ_GMT: Uses GMT time.
 - TZ_PC: Uses local computer/VPS time.
 - TZ_Broker: Uses broker server time.

- **Monday Start Time**
 - *Default:* "00:00"
 - *Description:* Sets the start time for trading on Monday (format: "HH:MM").
- **Monday End Time**
 - *Default:* "23:59"
 - *Description:* Sets the end time for trading on Monday (format: "HH:MM").
- **Tuesday Start Time**
 - *Default:* "00:00"
 - *Description:* Sets the start time for trading on Tuesday (format: "HH:MM").
- **Tuesday End Time**
 - *Default:* "23:59"
 - *Description:* Sets the end time for trading on Tuesday (format: "HH:MM").
- **Wednesday Start Time**
 - *Default:* "00:00"
 - *Description:* Sets the start time for trading on Wednesday (format: "HH:MM").
- **Wednesday End Time**
 - *Default:* "23:59"
 - *Description:* Sets the end time for trading on Wednesday (format: "HH:MM").
- **Thursday Start Time**
 - *Default:* "00:00"
 - *Description:* Sets the start time for trading on Thursday (format: "HH:MM").
- **Thursday End Time**
 - *Default:* "23:59"
 - *Description:* Sets the end time for trading on Thursday (format: "HH:MM").
- **Friday Start Time**
 - *Default:* "00:00"
 - *Description:* Sets the start time for trading on Friday (format: "HH:MM").
- **Friday End Time**
 - *Default:* "23:59"
 - *Description:* Sets the end time for trading on Friday (format: "HH:MM").

- **Saturday Start Time**
 - *Default:* "00:00"
 - *Description:* Sets the start time for trading on Saturday (format: "HH:MM").
- **Saturday End Time**
 - *Default:* "23:59"
 - *Description:* Sets the end time for trading on Saturday (format: "HH:MM").
- **Sunday Start Time**
 - *Default:* "00:00"
 - *Description:* Sets the start time for trading on Sunday (format: "HH:MM").
- **Sunday End Time**
 - *Default:* "23:59"
 - *Description:* Sets the end time for trading on Sunday (format: "HH:MM").