

MOMENTUM EA MANUAL

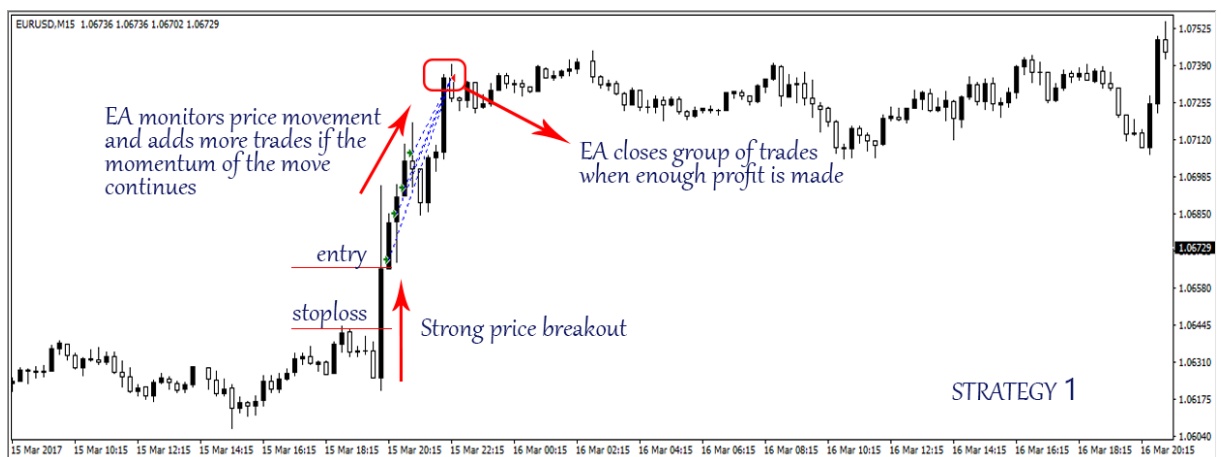
Introduction:

Momentum EA is a long term swing system that trades strong price breakouts and the reversal of those breakouts. The EA can be optimized for almost every currency pair but preferably on pairs that move in strong trends. The EA only uses 'open prices' of each candle for calculations, so optimizations can be done relatively fast. (no need for tickdata). By default the EA will always open 2 trades for every entry: one with fixed TP, and one with no TP but trailing SL. The 'conservative mode' of the EA will open 1 trade for every entry (with TP AND trailing SL).

The EA uses 2 strategies:

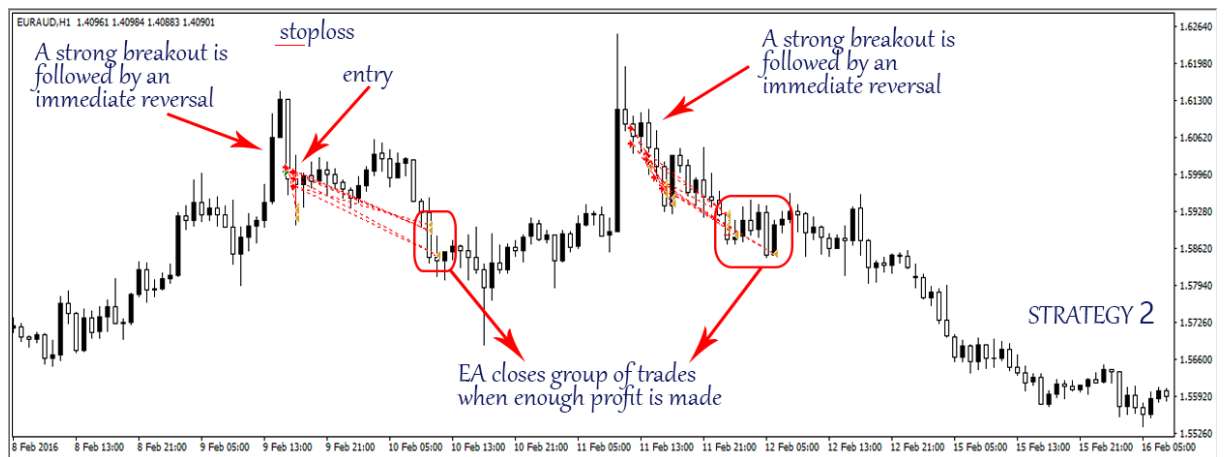
A) Strong Price Breakouts:

When price moves strongly in one direction in a short period of time, the EA will open trades in line with that move. The EA will monitor the trades separately, as well as the group of trades to see when profits should be taken.



B) Reversal of strong price breakouts:

When a strong price move is followed by a strong reversal shortly after, the EA will see this as a rejection of the original price move and will start opening trades in the direction of the reversal. Also here the EA will monitor the individual trades, as well as the group of trades



How to use the EA:

The EA can be used in many ways. You can manually optimize the parameters for the pair you like or you can use any of the available presets. You can also use the automatic settings feature, which will allow very easy setup with recommended settings. You can use only some selected pairs from each timeframe, or you can choose to run all pairs on 1 or more timeframes. With the 'OneChartSetup' option, you can run multiple pairs from 1 chart (for every timeframe 1 chart).

The EA can be run on all timeframes, but the recommended timeframes are H1, M30, M15 and M5.

The lower timeframes are more aggressive than the higher timeframes.

Typically, when running more pairs/timeframes together, the Reward/Drawdown ratio will increase, but keep in mind that there might be periods where multiple pairs can have correlated drawdown periods, which can increase total drawdown.

Very important when setting up the EA, is doing a good risk-assessment. A good tool for this is using the StrategyQuant 'EA Analyzer' which can help determine the risk/drawdown/returns of portfolio's of the many possible combinations of the EA. That software is free and can be found here:

<http://www.strategyquant.com/quantanalyzer/>

The best way to select pairs/timeframes, is doing longterm backtests (like 2007-2017) to see what are the possible risk attached to each one. Then you can select your favorites and see how they would perform together using the EA Analyzer. This will give you an idea of what to expect. When doing portfolio analysis, it's best to use a fixed lotsize for all the different pairs, and to check what is the max drawdown (in \$/€) for that selected lotsize.

REMEMBER: past 'max drawdown' or performance are no guarantee for future 'max drawdown' of profits, so make sure to adjust your risk using this knowledge.

Before starting up the EA:

Before attaching the EA to the chart, there are some steps you need to take to prepare your MT4:

- A) Make sure all the pairs you are going to use are visible in the Market Watch window
- B) Make sure all the pairs you are going to use have at least a couple of weeks of history for all timeframes (Tools -> history center -> double click each pair, then double click each timeframe)

Using the AUTOSETTINGS and ONE-CHART-SETUP:

To use the pre-optimized settings, you just set AutoSettings=true and attach it to the chart of the pair/timeframe you want to run the pre-optimized settings on. The EA will (internally) load the correct settings for that pair/timeframe.

To run multiple pairs from 1 chart, you need to set the OneChartSetup=true also.

Then simply attach the EA to any chart of the desired timeframe, and set all the pairs you wish to run in the 'OneChartSetup H1 Pairs' parameter for example if you are running the H1 timeframe.

Setting the Lotsize Settings:

You can either choose to use manual lotsize or automatic lotsize calculation. For manual lotsize, simply set the Auto Lotsize parameter = false and then set the desired lotsize in the StartLots parameter.

When using Auto Lotsize=true, the EA will calculate its lotsize based on your account balance and the LotsizeStep parameter as follows: $\text{Lots} = (\text{Account_Balance} / \text{LotsizeStep}) * 0.01$. It will then also use the StartLots parameter as the 'minimum' lotsize.

So if your balance = 10000\$ and your lotsizeStep=2000, then the EA will calculate the lots like this:
 $\text{Lots} = 10000 / 2000 * 0.01 \Rightarrow 0.05\text{lots}$.

Based on historical backtests, I can recommend these values as minimum lotsizeStep (and minimum balance) when running the full pairs of these timeframes:

Aggressive mode:

H1: 1500

M30: 2000

M15: 3000

M5: 3000

Conservative mode:

H1: 750

M30: 1500

M15: 1500

M5: 2000

When combining timeframes, it is normally not just adding those, but a bit in between (because they will not have a major drawdown all at the same time)

For example, running ALL timeframes and ALL pairs, I would recommend a lotsizeStep=5000 (and also a minimum balance of 5000). On Conservative Mode, that would be a value of '3000'.

These values are based on the MAX HISTORICAL DRAWDOWN of the portfolios of those timeframes (done with EA Analyzer)

Key characteristics of the EA:

- All trades have stop loss at a safe, but not too far distant. Protecting capital is rule number 1 in trading.
- Some trades have fixed take profit, others will use a trailing stop
- Multiple algorithms are used for managing the closing of the trade(s)
- Even if price doesn't reach the take profit levels, the group of open trades can still close in profit. So we don't always need the trend to be very strong to be profitable.
- Proved money-management techniques, used in all my EA's.
- This is a long term EA, which does a lot of trades, but it will not trade every day. Only when strong price movements are detected, trades will be opened.
- The EA is very versatile: it can be used and optimized on multiple timeframes and for multiple pairs. More timeframes and pairs will become available in the future.
- The EA uses only candle OPEN and CLOSE values, so less risk for faulty backtesting (tick data testing and 'open-prices only' backtesting are almost identical)
- This EA uses pure PRICE ACTION (price movement) for entering trades. No lagging indicators are used.
- The EA has an "automatic settings loading" system build in, so it will automatically select the best settings for the pair and timeframe.
- The EA is very limited influenced by spread or slippage, so it is safe to run in almost all market conditions and trade-account types.
- The EA can do a lot of trades, so it is also very interesting to use it for rebates!

Parameter list:

- Autosettings: Set to 'true' by default and will disable all parameters and auto-load and use the parameters optimized by myself. When you want to do manual optimizations, you must set it to 'false'
- No_New_Trades: When set to "True" the EA will only monitor open trades but will not put any new trades or pending orders
- Virtual_Expiration: only needed if your broker does not allow pending orders that have an expiration date
- Risk_Mode: lets you choose between aggressive or conservative mode. Aggressive mode will open 2 trades (one with TP and one with only trailing SL) for every entry and has no max limit to the number of trades. Conservative mode will make the EA use only 1 trade for every entry, which will use both TP and trailing SL. It has a limit of maximum number of open trades.
- OneChartSetup: If set to *true*, the EA will run all pairs on the timeframe of the chart. The pairs you want to use must be set in the following parameters
- OneChartSetup M1 Pairs: here you can set all the pairs that will run on the M1 timeframe when OneChartSetup is enabled
- OneChartSetup M5 Pairs: here you can set all the pairs that will run on the M5 timeframe when OneChartSetup is enabled
- OneChartSetup M15 Pairs: here you can set all the pairs that will run on the M15 timeframe when OneChartSetup is enabled
- OneChartSetup M30 Pairs: here you can set all the pairs that will run on the M30 timeframe when OneChartSetup is enabled
- OneChartSetup H1 Pairs: here you can set all the pairs that will run on the H1 timeframe when OneChartSetup is enabled
- Run_ST1: when enabled, the EA will run the Strategy A trades (which will catch strong trending breakouts)
- Run_ST2: when enabled, the EA will run the Strategy B trades (which will catch the reversal of a strong but false breakout)
- DeletePendingOrdersOnRestart: when enabled, the EA will first delete all pending orders when re-attaching the EA to the chart
- Wait_for_next_candle_at_launch: when enabled, the EA will wait for a full new candle before considering opening trades
- Autolotsize: when set to 'true', the EA will automatically determine the lotsize, based on the balance and the lotsizesteps parameter
- LotsizeSteps: here you can set the step-size of balance, for which the EA will use 0.01lots (when using autolotsize)
- OnlyUp: When set to 'true', the EA will never lower the lotsize if balance goes down
- StartLots: here you can set the lotsize that you want to use (when autolotsize is disabled)
- MaxLots: here you can set the maximum lotsize that the EA will use
- Trade_comment: here you can set the comment that the EA will use for the trades.
- use strategy A when using manual settings
- use strategy B when using manual settings

- setSL_TP_After_Entry: only needed when your broker does not allow orders or pending orders with a SL and/or TP already in place
- Magicnumber 1 (for the trade with TP)
- Magicnumber 2 (for the trade with trailing SL)
- Entry_Mode -> 3 modes of entry calculations
- MA Period (when using entry mode with moving averages) -> Moving average Period
- MA timeframe (when using entry mode with moving averages) -> Timeframe for the calculation of Moving average
- minimum deviation of the pricemove before setting entry -> for determining the 'strongness' of the move
- expirationtime of pending orders -> when should pending orders be deleted
- EntryFactor -> determines at what distance (relative to the size of the breakout move) reversal pending orders should be set
- minimum distance to put pending orders -> minimum distance from the current price for entries for strategy B
- add extra pips for each new pending order -> when putting multiple pending orders, you can add extra distance between them
- number of candles to look back for breakout-move -> for calculation of the 'strongness' of the move for entry
- minimum size of the move
- Period of the average price-moves for calculating entry -> basis for comparing the deviation of the current move
- use multiple trades -> for allowing multiple trades/pending orders
- maximum number of trades allowed -> here you can set the maximum number of allowed trades/pending orders
- use the trade with TP -> enable the trade that uses a TP
- use the trade with trailing SL -> enable the trade that uses a trailing SL
- risk of the trade on friday -> you can use reduced risk for trades opened on friday (0.5 mean 50%)
- starthour on friday to start using reduced risk
- SL distance calculated based on average pricemove X deviation -> adaptable SL size, based on X times the average pricemove
- TP distance calculated based on average pricemove X deviation -> adaptable TP size, based on X times the average pricemove (when fixed TP=0)
- fixed distance of TP -> set fixed TP level
- size of trailing SL: trailing SL distance (in pips)
- Start of Trailing SL: when to start with the trailing stop (in pips)
- minimum SL size
- maximum SL size
- breakeven start -> when (x pips in profit) to start moving SL to breakeven
- extra pips profit for breakeven -> add extra pips to the breakeven level
- when > 0 -> use high/low of X candles for trailing SL -> using a high/low of the last X candles to put trailing SL

- close-modify all trades when X pips in profit -> group of trades from the same pair/timeframe/strategy will be closed/trailed when this number of pips is reached in total
- close-modify all trades when X pips in loss -> group of trades from the same pair/timeframe/strategy will be closed/trailed when this negative number of pips is reached in total
- trailing SL size (for group of trades instead of closing) -> instead of closing the trades in group, it can also use a trailing SL, set here (value > 0)
- trailing SL step (for group of trades instead of closing) -> stepsize of that trailing SL
- GAP_filter -> Choose between 'OFF', 'Based on SL Size' or 'Based on MAX_GAP_Size'. The GAP filter will prevent trading being open when there is a big gap between two candles, usually after weekend. 'Based on SL Size' will see if the SL of the possible trades, is bigger than the GAP. If not, it will not put on those trades. 'Based on MAX_GAP_SIZE' will give the possibility to put the absolute maximum size of the GAP to execute the filter.
- Trade Time Settings -> here you can determine if the EA should trade only during certain hours. You can select how the EA should treat the 'off-hours', by either simple not putting new trades, or by no new trades and deleting all pending orders, or no new trades and deleting all pending AND open trades

Optimization manual:

Optimization presets can be requested by contacting me. The best way to do optimizations is by doing them for each strategy separate (because the 2 strategies use the same parameters for SL, TP, trailing SL, etc...). I also recommend to do a 'rough' optimization with steps for SL and TP for example not smaller than '10'. This will limit the chance of over-optimization. Also check if changing some values of the optimized parameters doesn't affect the result too much. That would also mean you have over-optimized. It is also best to first do basic optimization (entry and SL/TP/Trailing SL and group_close settings) and then start optimizing the other parameters (like breakeven-settings, high/low trailing SL, group_close at loss, etc...)