ALGOREX
Trading Solutions

COMBO LAB

ALGOREX COMBO LAB · MANUAL

Test an idea before it costs money

A free laboratory for the MetaTrader Strategy Tester. Build a trading idea from blocks, run it, and find out what holds, where it works and what it is good for. With hints from our own research.

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FREE LAB MetaTrader 5 · MetaTrader 4

Algorex Combo Lab

Build a trading idea from blocks, try it, refine it, and see what holds before you trade it.

WHY I BUILT IT

Every trading idea comes with a story: breakouts, crosses, RSI turns, the opening range, each with a few good charts. What it rarely comes with is a fair test, and a place to try what makes it better.

I wanted a tool that lets anyone try an idea in minutes and keep improving it, with the same questions we ask of our own systems: does it hold in both halves of the test, without its few best trades, and with higher costs? Does it beat plain chance? And which filter, side, exit or market brings it to life?

GOOD FOR

Traders who want to check an idea before they risk money on it, and anyone learning how to read a backtest without fooling themselves.

WHAT IT DOES

- Eight entry blocks: breakout, fractal break, EMA cross, RSI reversal, time of day, opening range, previous day's high and low, and a random entry as the baseline
- Follow the signal or fade it, long and short or one side only
- Filters in any mix: trend on a higher timeframe, volatility, session hours, Fridays, spread, trades per day
- Exits: stop by ATR, points or swing, target in R, break-even, ATR trailing stop, time exit, opposite signal, session end
- A scoreboard: all eight entry blocks run side by side in every test, ranked in the panel and in the report
- A lab report after every test: four checks, one lab score, one plain verdict
- A control panel on the chart, English or German

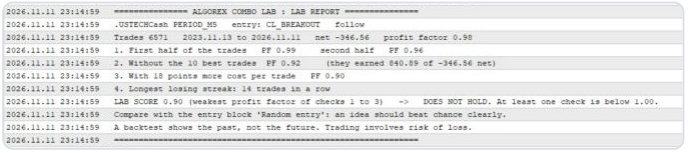
HOW TO USE IT

1. Open the Strategy Tester and choose Combo Lab.
2. Pick one entry block and run the test.
3. Read the lab report and the scoreboard in the Journal.
4. Change one thing at a time and compare. Always against the random entry.



Variable	Value
=== 1. Entry: pick one ===	
Entry block	Breakout of the last N bars
Follow the signal or fade it	Follow the signal
Sides	Long and short
Breakout: bars for the high / low	20
MA cross: fast EMA	20
MA cross: slow EMA	50
RSI: period	14
RSI: buy below	30.0
RSI: sell above	70.0
Time of day: hour (server time)	10
Time of day: minute	0
Time of day: direction = move of the last N bars	6
Opening range: start hour (server time)	16
Opening range: start minute	30
Opening range: length in minutes	30
Random: one entry per N bars on average	50
Random: seed (same seed = same trades)	1
=== 2. Filters: any mix ===	
Trend filter: only with the EMA of a higher timeframe	false
Trend filter: timeframe	4 Hours
Trend filter: EMA period	200
Volatility filter: ATR at or above its median	false

The inputs in the Strategy Tester: one entry block, its settings, then the filters



```
2026.11.11 23:14:59   ============== ALGOREX COMBO LAB : LAB REPORT ==============
2026.11.11 23:14:59   .USTECHCash PERIOD_M5   entry: CL_BREAKOUT   follow
2026.11.11 23:14:59   Trades 6571   2023.11.13 to 2026.11.11   net -346.56   profit factor 0.98
2026.11.11 23:14:59   1. First half of the trades   PF 0.99      second half   PF 0.96
2026.11.11 23:14:59   2. Without the 10 best trades  PF 0.92      (they earned 840.89 of -346.56 net)
2026.11.11 23:14:59   3. With 18 points more cost per trade   PF 0.90
2026.11.11 23:14:59   4. Longest losing streak: 14 trades in a row
2026.11.11 23:14:59   LAB SCORE 0.90 (weakest profit factor of checks 1 to 3)   ->   DOES NOT HOLD. At least one check is below 1.00.
2026.11.11 23:14:59   Compare with the entry block 'Random entry': an idea should beat chance clearly.
2026.11.11 23:14:59   A backtest shows the past, not the future. Trading involves risk of loss.
2026.11.11 23:14:59   ============================================================
```

The lab report in the Journal after a test

STATUS Free. MetaTrader 5 and MetaTrader 4, one source. On the MQL5 Market: search for «Algorex Combo Lab» in the Market tab of the terminal.

Installation and the first test

Combo Lab is an Expert Advisor. It is made for the Strategy Tester. It can trade on a demo account too, but its purpose is the test.

METATRADER 5

1. In MetaTrader 5: File, Open Data Folder.
2. Copy `Algorex Combo Lab.ex5` into `MQL5\Experts`.
3. In the Navigator, right-click Expert Advisors and choose Refresh.
4. Open the Strategy Tester (Ctrl+R) and choose Algorex Combo Lab as the Expert.

METATRADER 4

1. In MetaTrader 4: File, Open Data Folder.
2. Copy `Algorex Combo Lab.ex4` into `MQL4\Experts`.
3. In the Navigator, right-click Expert Advisors and choose Refresh.
4. Open the Strategy Tester (Ctrl+R) and choose Algorex Combo Lab as the Expert Advisor.

YOUR FIRST TEST IN FIVE MINUTES

1. **Choose market and timeframe**
   For example the Nasdaq 100 CFD of your broker on M5. A liquid market and at least one year of history give enough trades.
2. **Choose the model**
   MetaTrader 5: 1 minute OHLC is fast and close enough. MetaTrader 4: Every tick. Open prices only is too coarse for stops and trailing.
3. **Leave the inputs on their defaults**
   The default is the breakout of the last 20 bars, both sides, ATR stop, ATR trailing stop.
4. **Press Start**
   A test over three years of M5 bars takes about a minute.
5. **Open the Journal tab**
   At the end of the log you find the lab report. Read the verdict first, then the four checks.
6. **Now run the random entry**
   Set Entry block to Random entry and press Start again. This is your baseline: everything else has to beat it.

> **Server time.** Every time input (time of day, opening range, session) uses the time of your broker's server, not your local time. Many brokers run on UTC+2 in winter and UTC+3 in summer: there 16:30 is the New York open at 09:30.

The building blocks

Pick one entry block. It decides when a trade starts. Everything else (filters, exits, size) is the same for every block, so the blocks can be compared fairly.

ENTRY BLOCK	SIGNAL (ON THE CLOSE OF A BAR)	SETTINGS
Breakout of the last N bars	Close above the highest high of the last N bars: long. Close below the lowest low: short.	N bars (20)
Break of the last fractal	Close above the last confirmed upper fractal: long. Below the last lower fractal: short.	none
Moving-average cross	The fast EMA crosses above the slow EMA: long. Below: short.	fast (20), slow (50)
RSI reversal	RSI falls below the low level: long. Rises above the high level: short.	period (14), 30 / 70
Fixed time of day	Once a day at the given time, in the direction of the move of the last N bars.	hour, minute, N (6)
Opening range breakout	Records high and low from the start time for the given minutes, then trades the break of that range.	start (16:30), length (30)
Previous day's high / low	Close above yesterday's high: long. Below yesterday's low: short.	none
Random entry	*On average one entry every N bars, long or short by coin toss. Same seed, same trades.*	*N (50), seed (1)*

FOLLOW OR FADE

Every signal can be traded in its direction or against it. A breakout faded is a false-breakout trade; an RSI reversal followed is a mean-reversion trade, faded it becomes momentum.

SIDES

Long and short, long only or short only. Many ideas work on one side only, often the long side of a rising index. Test both sides separately before you trust either.

A GOOD ORDER OF WORK

1. Run the entry block with defaults, then the random entry. Is the idea better than chance at all?
2. Run it with Follow and with Fade. Which direction carries the information?
3. Run long only and short only. Does it work on both sides, or only on one?
4. Add one filter. Does the profit factor of the remaining trades rise, or only the number of trades fall?
5. Change the exit last. An exit can hide a weak entry for a while, but not for long.

Filters, exits and size

Filters decide which signals may be traded. Exits decide how a trade ends. Switch on one thing at a time, otherwise you will not know what changed the result.

FILTERS (ANY MIX)

- **Trend:** long only above, short only below the EMA of a higher timeframe (default EMA 200 on H4)
- **Volatility:** only when the ATR is at or above its median of the last 100 bars, so quiet markets are left out
- **Session:** new trades only between two hours of server time; the session may run over midnight
- **Friday:** no new trades on Fridays
- **Spread:** no new trades while the spread is above a limit in points
- **Trades per day:** at most N new trades per day

SIZE

- **Fixed lots** (default 0.1), or **risk %** of the balance per trade, calculated from the stop distance.
- For comparing ideas use fixed lots. Risk % makes the result depend on the order of wins and losses.

EXITS

- **Stop:** ATR × factor (default 2.0), a fixed distance in points, or behind the swing high or low of N bars. The stop distance is 1 R.
- **Target:** in R, for example 2.0 = twice the stop distance. 0 = no target.
- **Break-even:** moves the stop to the entry price after x R.
- **Trailing stop:** ATR × factor behind the best price since entry (default 3.0), starting after x R (default 1.0).
- **Time exit:** closes after N bars.
- **Opposite signal:** closes when the entry block gives the opposite signal (default on).
- **Session end:** closes when the session filter closes.

HOW COMBO LAB TRADES

- One position at a time, on the chart's symbol, with its own magic number (32900).
- Signals are read on the close of a bar; the order goes out at the open of the next bar. No look-ahead.
- Stops and targets are sent with the order and checked on every bar.

The lab report and the scoreboard

A profit factor alone says little. A test can look good because of one lucky half, three outsized trades or costs that are too low. The lab report asks four questions after every test.

1. **Both halves**
   The closed trades are split in two halves in time order. Profit factor of each half. An idea that only worked in one half is a description of the past, not an edge.

2. **Without the best trades**
   The 10 best trades are taken out (at most a fifth of all trades). If the rest loses, the idea lives on a few lucky days.

3. **Higher costs**
   Each trade is charged one more spread (or the points you set). Real fills are worse than the tester's; an edge must survive that.

4. **Losing streak**
   The longest run of losing trades. Not part of the score, but ask yourself whether you would still trade the idea after that many losses in a row.

LAB SCORE AND VERDICT

- The **lab score** is the weakest profit factor of checks 1 to 3. One weak check is enough to pull it down.
- **HOLDS:** score 1.15 or higher with at least 100 trades. You have found something: confirm it on other markets and years, then on a demo account.
- **THIN:** score between 1.00 and 1.15. Positive everywhere: a promising candidate to refine.
- **DOES NOT HOLD YET:** at least one check below 1.00. Not yet: the report shows which check to work on next.
- **TOO FEW TRADES:** fewer than 30. No verdict; 100 or more are better.

WHERE TO FIND IT

- In the Journal tab of the Strategy Tester, at the end of the log.
- As a text file `AlgorexComboLab_report.txt` in the common Files folder of the terminals (File, Open Data Folder, one level up, Common\Files).
- As the OnTester result. In the optimizer choose «Custom max» as the criterion: then the lab score ranks the variants, not the profit.

THE SCOREBOARD

While your entry block trades, the other seven run alongside it as virtual trades, with the same filters, exits and costs. After the test the report ranks all eight by lab score; in the panel the button «Scoreboard» shows the ranking live. One run tells you which block is worth a closer look on your market.

```
LAB SCORE 0.90 (weakest profit factor of checks 1 to 3)   ->   DOES NOT HOLD YET. Work on the check below 1.00: a filter, one side, another exit or market.
--------------- SCOREBOARD: all entry blocks, same filters and exits ---------------
rank  entry block            trades    PF   1st half 2nd half  w/o best  +costs   LAB SCORE
  1.  EMA 20/50                3442  1.08     1.21     0.98      0.99     0.99     0.98
  2.  Open range 16:30         1456  1.09     1.04     1.12      0.96     1.04     0.96
  3.  RSI 14                   3958  1.01     0.99     1.02      0.95     0.94     0.94
  4.  Breakout 20              6420  1.00     1.04     0.98      0.95     0.93     0.93  <- your entry
  5.  Prev. day H/L            1672  1.01     0.96     1.06      0.90     0.96     0.90
  6.  Fractal                 10391  0.97     1.00     0.94      0.92     0.88     0.88
  7.  Random                   3192  0.89     0.92     0.86      0.81     0.81     0.81  (chance)
  8.  Time 10:00                773  0.83     0.91     0.76      0.67     0.73     0.67
Virtual trades at the bar open, spread as cost. Close to a real run, not identical.
Next: pick the block that interests you, set it as Entry block, add one filter and run again.
```

The scoreboard at the end of the report: eight entry blocks in one run, ranked by lab score

Six experiments

Start with one run and the scoreboard: it shows which blocks are worth digging into. Then ask one clear question at a time. Six questions to start with.

EXPERIMENT 1 How good is chance?

Entry block: Random entry. Optimize the seed from 1 to 20 (slow complete algorithm).

You get twenty versions of pure chance with your costs. Their spread is the range any idea must clearly leave behind.

EXPERIMENT 2 Follow or fade?

Run one entry block twice, once with Follow, once with Fade.

The better of the two shows which direction carries the information. If both sit close to chance, the signal needs a condition: a filter, a side or another market.

EXPERIMENT 3 Does the filter help, or just cut trades?

Run an idea without filter, then with one filter.

A good filter raises the profit factor of the trades it keeps. A filter that only removes trades proves nothing.

EXPERIMENT 4 Is it the entry or the exit?

Keep the entry, change only the exit: no trailing, target 2 R, time exit 12 bars.

Then run the same exits on the random entry. If chance does as well, the exit was doing the work.

EXPERIMENT 5 Optimize without fooling yourself

Optimize with «Custom max» (the lab score), not with profit.

Then look at the neighbours of the best setting. If 18 bars and 22 bars are bad and only 20 is good, you have found a coincidence.

EXPERIMENT 6 Does it hold out of sample?

Find a setting on the first two years only. Then run it, unchanged, on the third year.

Then on another market and another timeframe. Only what survives all of that is worth a demo account.

THE LAB NOTEBOOK

Write every test down, the good ones and the weak ones. After twenty tests you will see which conditions make your ideas work.

MARKET / TF	PERIOD	ENTRY	CHANGE	TRADES	PF	LAB SCORE	VERDICT
US100 M5	2023–2026	Breakout 20	none	6 571	0.98	0.90	next: trend filter

Eight starting points

Every entry block is a question, not an answer. With its default settings it is a baseline to work from. Here is one first question for each block. Run it, read the lab report and the scoreboard, change one thing, compare.

ENTRY BLOCK	A QUESTION TO START WITH
Breakout 20 bars	Does a breakout carry further in the direction of the higher-timeframe trend? Switch on the trend filter and compare.
Fractal break	Is the break the start of a move, or a false break? Run it once with Follow and once with Fade.
EMA cross 20 / 50	Fast and slow: try 10 / 30 and 50 / 200. Do the neighbours of the best setting hold as well?
RSI reversal 30 / 70	Does it work better in quiet or in volatile markets? Switch on the volatility filter.
Time of day 10:00	Which hour of your broker's server time matters on your market? Try the session opens.
Opening range 16:30 +30	15, 30 or 60 minutes? Long only or short only? Close at the session end?
Previous day high / low	Follow the break, or fade it back into yesterday's range?
Random entry (baseline)	Your baseline. Run seeds 1 to 20 and note the range. Everything else has to leave it clearly behind.

HOW TO READ YOUR RESULTS

- **Use the scoreboard.** Every filter or exit you change applies to all eight blocks at once: one run shows which block it helps.
- **Compare with chance first.** The random entry shows what your costs alone do.
- **Look at the halves.** A result that comes from one half only describes the past.
- **Take out the best ten trades.** What is left is what an ordinary week looks like.
- **Add costs.** Real fills are worse than the tester's.
- **One market is one answer.** Try the same idea on another market and another timeframe.

> MetaTrader 4 and MetaTrader 5 run the same blocks, the same scoreboard and the same lab report. Results differ with history, modelling and spread: compare ideas on one platform.

The next page shows what we learned in our own research, as hints for where to look.

Findings: what our research showed

Over the last months we tested what traders are taught, on real futures data: Nasdaq and S&P 500 futures from 2010 to 2026 in one-minute bars, other markets for comparison, always with costs. What we learned, as starting points for your own tests.

Momentum carries, on the Nasdaq	Trading in the direction of a move that has already left the normal range worked over ten years on the Nasdaq, weaker on the S&P 500. It is a feature of the large US equity indices; on the Dow, the Russell, gold, oil, bonds or currencies it did not show. A good place to start: breakout and opening range blocks on an index.
Reversals need more than the pattern	Stop hunts, liquidity sweeps into a gap, fading the extremes: on Nasdaq and S&P 500 futures from 2010 to 2026 the popular reversal setups did not pay their costs on their own. If you test them, test them with a condition, and Fade against Follow.
Hit rate and profit are two things	The gap closes on 76 to 79 % of the days, the middle of the previous day is reached on 73 %. Traded, these statistics gave profit factors of 0.6 to 1.1: the frequent winners are small, the rare losers large. The lab report shows profit, not only hits.
Check the claims yourself	The opening at the extreme of the first minute was said to hold «over 80 %» of the time. On sixteen years of data it held 53 to 69 %. Combo Lab is made for exactly this: put a number you were told to the test.
The first half hour shows the size of the day	Fourteen features of the first half hour (range, volume, gap, night session, previous day) told how large the day would be, not whether it would trend or rotate. Useful for stops and targets; less for the direction.
News days are opportunities	On rate decisions, inflation and jobs days the moves are larger. Momentum earned more on those days, not less. There is no need to avoid them; the direction of the first half hour says little there.
Order flow works in seconds	Order book signals (stacking, pulling, one-sided books) predict the next seconds, but less than the costs. Footprint signals such as absorption showed a weak edge on the Nasdaq. A field for traders with very low costs.
Big days make the year	In every system we tested, a handful of large trend days carry the result. The skill is to be there on those days and small on the others. That is why the lab report also shows the result without the best trades.

Your turn: take one of these findings, build it from the blocks and see what holds on your market.

All inputs

The inputs are named in English in the terminal; the panel can be switched to German (Language / Sprache).

INPUT	DEFAULT	WHAT IT DOES
1. ENTRY		
Entry block	Breakout	One of the eight entry blocks
Follow the signal or fade it	Follow	Fade trades every signal the other way
Sides	Long and short	Or long only, short only
Breakout: bars	20	Bars for the high and low
MA cross: fast / slow EMA	20 / 50	The fast EMA must be shorter
RSI: period, buy below, sell above	14, 30, 70	
Time of day: hour, minute	10, 0	Server time
Time of day: direction bars	6	Direction = move of the last N bars
Opening range: start, length	16:30, 30 min	Server time
Random: one entry per N bars, seed	50, 1	Same seed, same trades
2. FILTERS		
Trend filter, timeframe, EMA	off, H4, 200	Long above, short below the EMA
Volatility filter, bars, factor	off, 100, 1.0	ATR ≥ median × factor
Session filter, first hour, end hour	off, 8, 20	Server time; end hour not included
New trades on Fridays	on	
Max. spread in points	0 = off	
Max. trades per day	0 = off	
3. EXIT		
Stop loss	ATR	ATR, points or swing
ATR period, stop factor	14, 2.0	Also used by trailing and volatility filter
Stop in points, swing bars	500, 10	
Take profit in R	0 = none	
Break-even after x R	0 = off	
Trailing ATR factor, start after x R	3.0, 1.0	0 = no trailing
Time exit after N bars	0 = off	
Close on opposite signal	on	
Close at session end	off	Needs the session filter
4. SIZE		
Position size, lots, risk %	Fixed, 0.1, 0.5	Risk % from the stop distance
5. LAB REPORT		
Leave out the N best trades	10	At most a fifth of the trades
Extra cost per trade in points	−1 = one spread	
Write the report to Common\Files	on	
Scoreboard	on	All eight entry blocks run virtually
6. OTHER		
Magic number, max. deviation	32900, 40	
Panel, language, size, position	on, English, 100 %, top right	

Questions, limits and risk

The test shows no trades.

Check the time inputs against your server time, the session filter, and the history: the indicators need a few hundred bars before the first signal. With the opening range, the range must start inside the bars of your timeframe.

The lab report says TOO FEW TRADES.

Use a longer period or a smaller timeframe. Thirty trades are the minimum for a verdict; a hundred or more are better.

MetaTrader 4 and MetaTrader 5 give different numbers.

Different history, different modelling, different spreads. Compare ideas on one platform and one setting, not across platforms.

Can I trade Combo Lab live?

It runs on a demo account as well, with the same rules as in the test. It is a laboratory: no setting in it is a recommendation, and the defaults are a starting point. Trade live only what you have found and confirmed yourself.

What about CFDs and futures?

The tester uses your broker's CFD data and spreads. Our research uses futures data. The direction of the findings was the same on both; the figures are not.

What does a HOLDS verdict mean?

That the idea passed four checks on the past. Not more. Test it on other markets and years, then on a demo account for a few weeks.

LIMITS

- A backtest shows the past. The lab report makes it harder to fool yourself, not impossible.
- The tester fills at prices that live trading does not always get. That is what check 3 is for, but it is only an estimate.
- Optimizing many inputs on one period will always find something. Experiment 6 tells the real finds from the lucky ones.

> **Risk notice.** Trading futures and CFDs involves substantial risk of loss and is not suitable for every investor. Combo Lab is software for testing ideas. It does not give trading signals or investment advice, and test results do not predict future results. Algorex Trading Solutions sells software and training; it does not manage money.

Questions and feedback: contact@algorex.ch · algorex.ch

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