

Vertex Reversal

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Counter-Trend Reversal (Mean-Reversion)

TIMEFRAME

M15 – H1

WEBSITE

www.algotbot.live

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Overview

Vertex Reversal is a pure price-action reversal strategy that uses no indicators of any kind — no moving averages, no oscillators, no ATR. Every decision is made from raw candle geometry: the ranges, highs, lows and closes of recent bars, and the location of the most recent extreme inside a simple lookback window.

The strategy models the sharp **“V” turning point** that ends a short directional leg. Where most reversal patterns confirm slowly (a pin bar, or a climax bar followed by a separate rejection bar), Vertex Reversal demands a single, violent **snap-back**. After a clean directional leg drives price to a fresh local extreme, one candle — the **vertex bar** — single-handedly undoes the move. Its defining fingerprint is that its close jumps back beyond where the leg *started* (it erases the entire leg in one bar), it engulfs the bar before it, and its range is abnormally wide versus the leg it is reversing. That combination is the market's clearest tell that the side in control was trapped and is being run over.

The system was built with **XAU/USD** and **GBP/USD** in mind on the **M15–H1** timeframes, but it locks to no symbol or timeframe and runs on whatever primary timeframe is selected at backtest or runtime. The stop is structural (placed just past the vertex extreme) and the target is a fixed reward:risk multiple of that structural distance.

Style: Counter-trend swing reversal with a mean-reversion flavour, taken only at range extremes. The strategy trades *against* a short exhausted leg, never with an established trend.

How It Works

On every freshly closed bar (the still-forming bar at shift 0 is ignored), the EA inspects the most-recently-closed candle — the **vertex bar** at shift 1 — together with the leg of bars behind it and the lookback window that precedes it. Only one position is held per magic number at a time; the protective stop and target manage every exit.

The Vertex Bar Conditions

A trade is only considered when the vertex bar passes a strict set of geometric filters. For a bullish reversal (a **V-bottom**), all of the following must be true:

- **Descending leg:** the bar just before the vertex closed below the close of the bar that began the leg (`RunBars` bars back) — the leg net-moved down.
- **Fresh extreme:** the vertex bar's low tags or breaks the lowest low of the preceding `Lookback` window — a genuinely fresh local low.
- **Bullish snap:** the vertex bar closes above its open.
- **Engulfment:** the vertex bar's high pushes above the prior bar's high.
- **Leg erased:** the vertex bar closes back *above* the close where the leg began — it undoes the whole move in a single candle.
- **Expansion:** the vertex bar's range is at least `ExpansionMult` × the average range of the leg it is reversing — a wide snap, not a quiet inside bar.
- **Strong close:** the close sits within the top portion of the bar's range, specifically $(\text{close} - \text{low}) \geq \text{ClosePct\%}$ of the vertex range — price finished decisively into the high.

A bearish reversal (a **V-top**) is the exact mirror: an ascending leg into a fresh window *high*, reversed by a wide *bearish* vertex bar that engulfs the prior bar's low, closes below where the leg began, and finishes strongly into its low.

Entry Logic

- **Long (V-bottom):** when every V-bottom condition is satisfied, the EA buys at the current Ask.
- **Short (V-top):** when every V-top condition is satisfied, the EA sells at the current Bid.

Exit Logic — Structural Stop & Fixed Reward:Risk Target

The stop loss is placed just beyond the vertex extreme, with a buffer expressed as a percentage of the vertex bar's range:

$$\text{buffer} = (\text{StopBufferPct} / 100) \times \text{vertexRange}$$

Long (V-bottom):
SL = vertexLow - buffer
risk = entry - SL
TP = entry + RewardRisk × risk

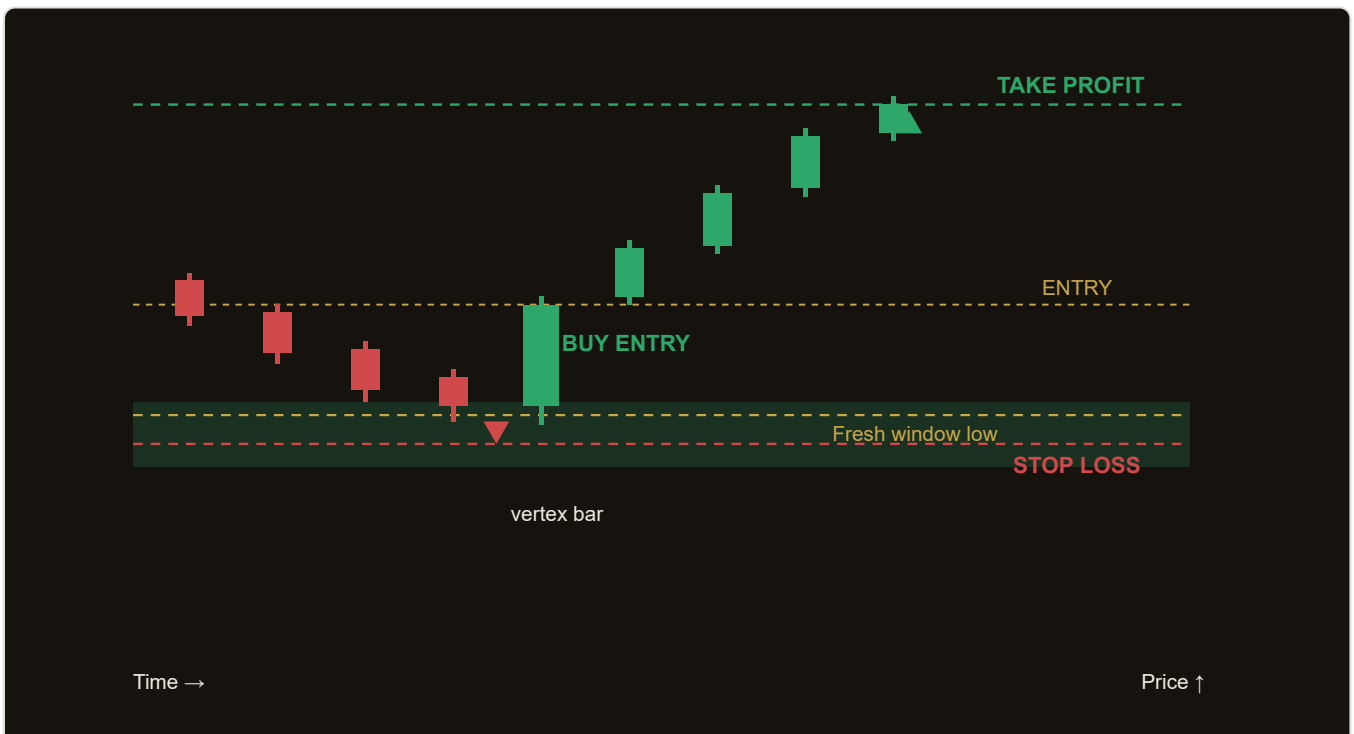
Short (V-top):
SL = vertexHigh + buffer
risk = SL - entry
TP = entry - RewardRisk × risk

Because the stop is anchored to the structure of the reversal candle itself, each trade's risk scales naturally with the size of the move that triggered it. The take profit is always a fixed multiple (**RewardRisk**) of that structural risk, so the reward:risk ratio is constant regardless of volatility. The order is rejected if the computed risk is not positive.

One trade at a time: the EA holds at most a single open position per magic number on the symbol. No new entry is taken until the current SL or TP closes the existing position.

Strategy in Action

The illustration below shows an example of how the strategy identifies a setup and triggers its entry and exit. This is a simplified, illustrative example for educational purposes — not real market data. It depicts a **V-bottom**: a descending leg drives price to a fresh window low, then a single wide bullish vertex bar snaps back, erases the leg, and triggers a long entry.



Illustrative example only. Actual market behaviour varies.

Reading the chart

A four-bar red leg pushes price down to a fresh window low. The next candle — the green vertex bar — opens near the bottom, wicks to a brand-new low, then closes strongly back above where the leg started: a wide bullish expansion bar. That triggers a

BUY ENTRY

. The stop sits just below the vertex low (with a small buffer), and the take profit is a fixed reward:risk multiple of that structural distance.

Parameters

Parameter	Default	Description
RunBars	3	Number of bars in the directional leg that the vertex bar must reverse. Range 2–8, step 1.
Lookback	20	Size of the window scanned for the fresh local extreme (high/low) that precedes the vertex bar. Range 6–60, step 1.
ExpansionMult	1.3	The vertex bar's range must exceed this multiple of the leg's average range to qualify as a wide snap. Range 1.0–3.0, step 0.1.
ClosePct	60.0	Minimum percentage of the vertex bar's range that the close must cover (a strong close into the high/low). Range 40–90, step 5.
RewardRisk	1.8	Reward:risk multiple used to set the take profit relative to the structural stop distance. Range 0.5–5.0, step 0.1.
StopBufferPct	15.0	Stop-loss buffer, as a percentage of the vertex bar's range, placed just past the vertex extreme. Range 0–100, step 5.
Lots	0.10	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	5142	EA magic number used to identify and manage this strategy's positions independently of other EAs.

Recommended Settings

The defaults above are the recommended starting point. The strategy was designed and tuned with the following context in mind:

- **Symbols:** XAU/USD (Gold) and GBP/USD, where sharp single-bar reversals at range extremes are common.
- **Timeframes:** M15 to H1. Lower timeframes produce more (but noisier) vertex bars; higher timeframes produce fewer, cleaner ones.
- **Expansion & close filters:** the default `ExpansionMult` of 1.3 and `ClosePct` of 60% keep entries selective. Raise them to demand more violent, more decisive snap-backs; lower them to take more setups.
- **Reward:risk:** the default `RewardRisk` of 1.8 favours a larger target than risk per trade. Lower values raise the hit-rate but shrink the payoff; higher values do the reverse.

Tip: Because the stop is structural (anchored to the vertex bar), position risk in price terms varies with each setup. Size `Lots` conservatively so that even the widest vertex bars keep your per-trade risk within your account's limits. Always validate any parameter changes in the MT5 Strategy Tester before trading live.

How to Install on MetaTrader 5

- 1 Copy `VertexReversal.ex5` to your MT5 `MQL5\Experts\` folder
- 2 Restart MetaTrader 5 and refresh the Navigator panel
- 3 Drag the EA onto a chart matching the recommended symbol and timeframe
- 4 Configure the input parameters and click **OK**
- 5 Enable **Algo Trading** in the MT5 toolbar

Risk Warning

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