

Momentum Acceleration Breakout

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Momentum Breakout (Price Action)

TIMEFRAME

M15 – H1

WEBSITE

www.algotbot.live

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Overview

Momentum Acceleration Breakout is a pure price-action Expert Advisor that uses no indicators at all — no moving averages, no RSI, no ATR. It reads decisions directly from raw candle geometry: open, high, low and close.

Where most momentum systems react to a single thrust bar, this EA reads the *second derivative* of price. It asks not merely “is momentum present?” but “is momentum getting *stronger*?” To do this it measures the signed body (Close – Open) of every bar and sums that directional push across two back-to-back windows of equal length. When the most recent window's net push clearly outruns the window before it, momentum is *accelerating*, and the EA looks to join the impulse on a structural breakout.

Two further pure price-action gates keep the read honest — a **conviction** check on the trigger bar's body, and a **structural breakout** requirement so the accelerating push has actually printed a fresh local extreme rather than churning inside old range. The stop is structural (just beyond the impulse window's opposite extreme) and the target is a configurable reward-to-risk multiple. Both the long and short legs are fully symmetric.

Why acceleration? A single strong candle can be noise. Two windows of rising directional push, confirmed by a driven trigger close through prior structure, is a far stronger sign that buyers (or sellers) are pressing harder into a fresh extreme — the impulse this EA is built to ride.

How It Works

Measuring acceleration

Per-bar directional push is the signed body, $\text{Close} - \text{Open}$. The EA sums this push across two consecutive windows, each `MomentumPeriod` bars long:

- **recentNet** — the net push of the most recent window (shifts `1 ... n`, the bars just closed)
- **priorNet** — the net push of the window immediately before it (shifts `n+1 ... 2n`)

Acceleration means the recent push outruns the prior push in the same direction by at least `AccelMult`. When `priorNet` is flat or against the move, a strongly positive (or negative) `recentNet` still qualifies as an *ignition* — momentum accelerating up (or down) through zero, which is exactly the impulse the strategy wants to catch.

The two price-action gates

1. **Conviction** — the just-closed trigger bar's body must be at least `MinBodyPct%` of its own range. This proves the close was driven, not a doji that merely drifted.
2. **Structural breakout** — the trigger close must clear the highest high (for a long) or the lowest low (for a short) of the *prior* window. The accelerating push therefore has to print a fresh local extreme.

Entry logic

The EA acts **once per freshly closed bar** and holds only one position at a time per magic number. It also needs `2 × MomentumPeriod + 2` bars of closed history before it will evaluate a signal.

LONG (BUY)

- `recentNet > 0` — net push is up
- `recentNet > AccelMult × priorNet` — the recent push outruns the prior window (acceleration / ignition)
- `trigger.Close > trigger.Open` — the trigger is an up bar
- `trigger.Close > priorHigh` — the close printed a fresh local high

SHORT (SELL)

- `recentNet < 0` — net push is down

- $\text{recentNet} < \text{AccelMult} \times \text{priorNet}$ — the recent push is more negative than the prior window (acceleration / ignition)
- $\text{trigger.Close} < \text{trigger.Open}$ — the trigger is a down bar
- $\text{trigger.Close} < \text{priorLow}$ — the close printed a fresh local low

Exit logic — structural stop & reward:risk target

Exits are fully managed by the stop-loss and take-profit attached at entry; there is no trailing or partial logic.

- **Stop loss (long):** $\text{recentLow} - \text{buffer}$ — just below the impulse window's lowest low.
- **Stop loss (short):** $\text{recentHigh} + \text{buffer}$ — just above the impulse window's highest high.
- **Buffer:** $(\text{StopBufferPct} / 100) \times \text{trigger range}$ — a price-derived cushion beyond the impulse base (no ATR).
- **Take profit:** $\text{entry} \pm \text{RewardRisk} \times \text{risk}$, where **risk** is the entry-to-stop distance.

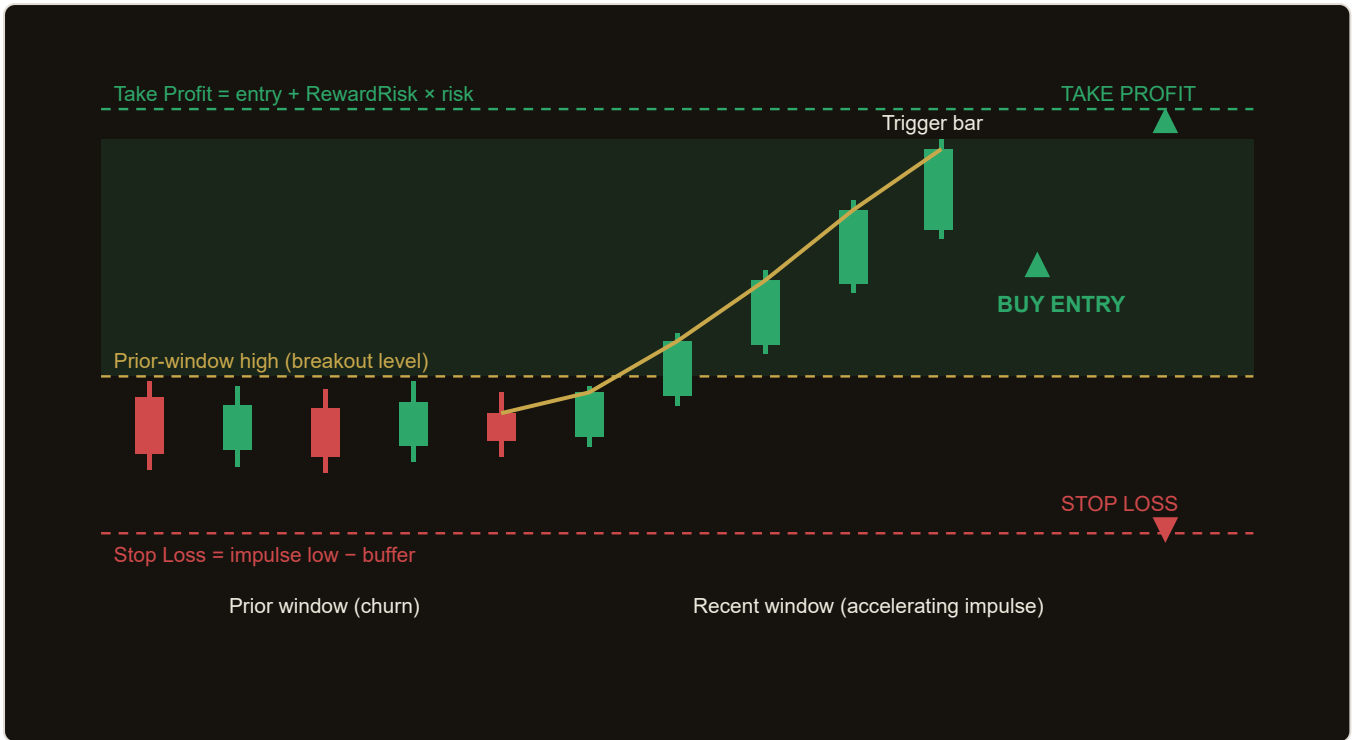
Trade filters

- **Spread filter:** if $\text{MaxSpreadPoints} > 0$ and the current spread exceeds it, the bar is skipped to keep fills realistic. Set to 0 to disable.
- **One position per magic:** a new signal is ignored while a position for this magic number is already open.
- **Valid range only:** bars with a zero or negative range, or where the computed risk is not positive, are skipped.

Pure price action. Every value — the momentum windows, the breakout structure, the stop and the target — is derived from bar open/high/low/close. There is nothing to release on de-init and no indicator buffers to warm up.

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.



Illustrative example only. Actual market behaviour varies.

Parameters

Parameter	Default	Description
MomentumPeriod	5	Bars per momentum window. Both the recent and prior windows span this many closed bars. Range 3–20, step 1.
AccelMult	1.5	Acceleration threshold. The recent window's net push must exceed this multiple of the prior window's push to qualify. Range 1.0–4.0, step 0.1.
MinBodyPct	55.0	Conviction filter. The trigger bar's body must be at least this percentage of its full range. Range 30–90, step 5.
RewardRisk	1.8	Reward-to-risk multiple. Take-profit distance equals this × the entry-to-stop distance. Range 0.5–5.0, step 0.1.
StopBufferPct	15.0	Stop buffer as a percentage of the trigger bar's range, added beyond the impulse base. Range 0–100, step 5.
MaxSpreadPoints	30	Maximum allowed spread (in points) at entry; orders are skipped above it. Set to 0 to disable. Range 0–200, step 5.
Lots	0.10	Fixed order volume in lots. Range 0.01–1.0, step 0.05.
Magic	7314	Magic number identifying this EA's positions, so it manages only its own trades.

Recommended Settings

Because the strategy is built entirely from candle geometry, it adapts to any symbol's price scale automatically. Sensible starting points:

- **Timeframe:** M15 to H1. Higher timeframes produce cleaner, less frequent acceleration signals.
- **Symbols:** liquid, trending instruments — major FX pairs and indices tend to produce the cleanest impulse breakouts.
- **MomentumPeriod 5 / AccelMult 1.5:** the defaults — a balanced read of acceleration. Raise `AccelMult` toward 2.0–2.5 to demand sharper ignition and trade less often.
- **MinBodyPct 55:** a solid conviction floor. Increase toward 65–70 to insist on more decisive trigger closes.
- **RewardRisk 1.8:** a sensible asymmetric target; lower it for a higher hit rate or raise it to let winners run further.
- **MaxSpreadPoints:** match your broker — keep it tight on majors, widen it for higher-spread symbols.

Example — tuning for fewer, stronger signals

Set `MomentumPeriod = 7`, `AccelMult = 2.2` and `MinBodyPct = 65` on H1. The EA now requires a longer, more clearly accelerating push and a more decisive trigger close, producing fewer but higher-conviction breakout entries.

Always validate first. Run the Strategy Tester across your chosen symbol and timeframe, then optimise the parameters within the ranges above before committing to a live or demo account.

How to Install on MetaTrader 5

- 1 Copy `MomentumAccelerationBreakout.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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