Algobot
Maximize Your Profits

Momentum Divergence Reversal

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Reversal — Momentum Divergence	Any (timeframe-agnostic)	www.algobot.live

> ⚠ **Important Disclaimer** This document is for educational and informational purposes only. It does not constitute financial or investment advice. Trading forex, CFDs, and other leveraged instruments involves substantial risk of loss and is not suitable for all investors. Past backtest performance does not guarantee future results. Never trade with capital you cannot afford to lose.

Overview

Momentum Divergence Reversal is a pure price-action swing-reversal Expert Advisor. It uses no oscillators, moving averages, or other indicators — it is built on two allowed pillars: **Momentum** and **Reversal**. The core idea is that a healthy trend is confirmed by momentum. When price grinds out a fresh extreme but the momentum behind that extreme fades, the move is running on fumes and is ripe to reverse.

Momentum is measured the honest way — as a raw price rate-of-change taken at each swing pivot:

```
MOM = Close[pivot] − Close[pivot − MomPeriod]
```

The EA locates fractal swing highs and lows, then compares the momentum reading of the newest swing against the previous swing of the same type. A divergence between price and momentum arms a setup, and a decisive confirmation candle triggers the entry. Because every calculation is derived from candle geometry, the strategy is timeframe-agnostic and runs on whatever timeframe the chart is set to.

> **Two pillars, one thesis.** A *higher* price high built on *weaker* momentum (bearish divergence) signals buyer exhaustion; a *lower* price low built on *stronger* momentum (bullish divergence) signals seller exhaustion. The EA only acts once a decisive candle confirms the roll-over.

How It Works

Bar-by-bar processing

The EA evaluates logic **once per closed bar**. On each new bar it appends the just-closed bar to a rolling history and works only with completed candles — never the forming bar — so signals do not repaint. It maintains one position at a time per magic number; while a trade is open, any pending setup is discarded.

Detecting a swing pivot

A candidate pivot sits `SwingLookback` bars back from the newest closed bar, giving it an equal number of neighbours on each side. It is confirmed as a fractal **swing high** when its high is strictly greater than every neighbour high on both sides, or a fractal **swing low** when its low is strictly lower than every neighbour low on both sides. At the pivot bar the EA also computes its momentum reading, which requires `MomPeriod` bars of history before the pivot.

Entry logic — the divergence test

Each confirmed pivot is compared against the previously stored pivot of the same type:

- **Short setup (bearish divergence):** price prints a **higher swing high** than the prior swing high, but the momentum at the new high is **lower** than at the prior high. Buyers are exhausted — the EA arms a short.
- **Long setup (bullish divergence):** price prints a **lower swing low** than the prior swing low, but momentum at the new low is **higher** than at the prior low. Sellers are exhausted — the EA arms a long.

Arming a setup does not open a trade. The EA then waits for a **decisive confirmation candle** on a subsequent bar:

- A candle is "decisive" when its body spans at least **40%** of its full high-to-low range (`|Close − Open| ≥ 0.4 × range`).
- **Short trigger:** a decisive *bearish* candle (Close < Open) that also closes below the prior bar's close (downside follow-through).
- **Long trigger:** a decisive *bullish* candle (Close > Open) that also closes above the prior bar's close (upside follow-through).

Setup invalidation & expiry

An armed setup is abandoned before it ever triggers if the thesis is broken or it grows stale:

- **Thesis broken:** for a short, a bar closes back above the divergent pivot high; for a long, a bar closes back below the divergent pivot low.
- **Expiry:** the setup is discarded once it has been armed for more than `SetupExpiryBars` bars without a valid trigger.
- **Open position:** if a position for this magic is already open, the armed setup is cleared.

Stop loss & take profit

Stops sit just beyond the divergent pivot — the exact level where the reversal thesis would be proven wrong. A buffer, sized as a fraction of the pivot bar's range, is added past the pivot:

- **Short:** `SL = pivotHigh + pivotRange × StopBufferFraction`, entered at the Bid. `TP = Bid − risk × RewardRisk`.
- **Long:** `SL = pivotLow − pivotRange × StopBufferFraction`, entered at the Ask. `TP = Ask + risk × RewardRisk`.

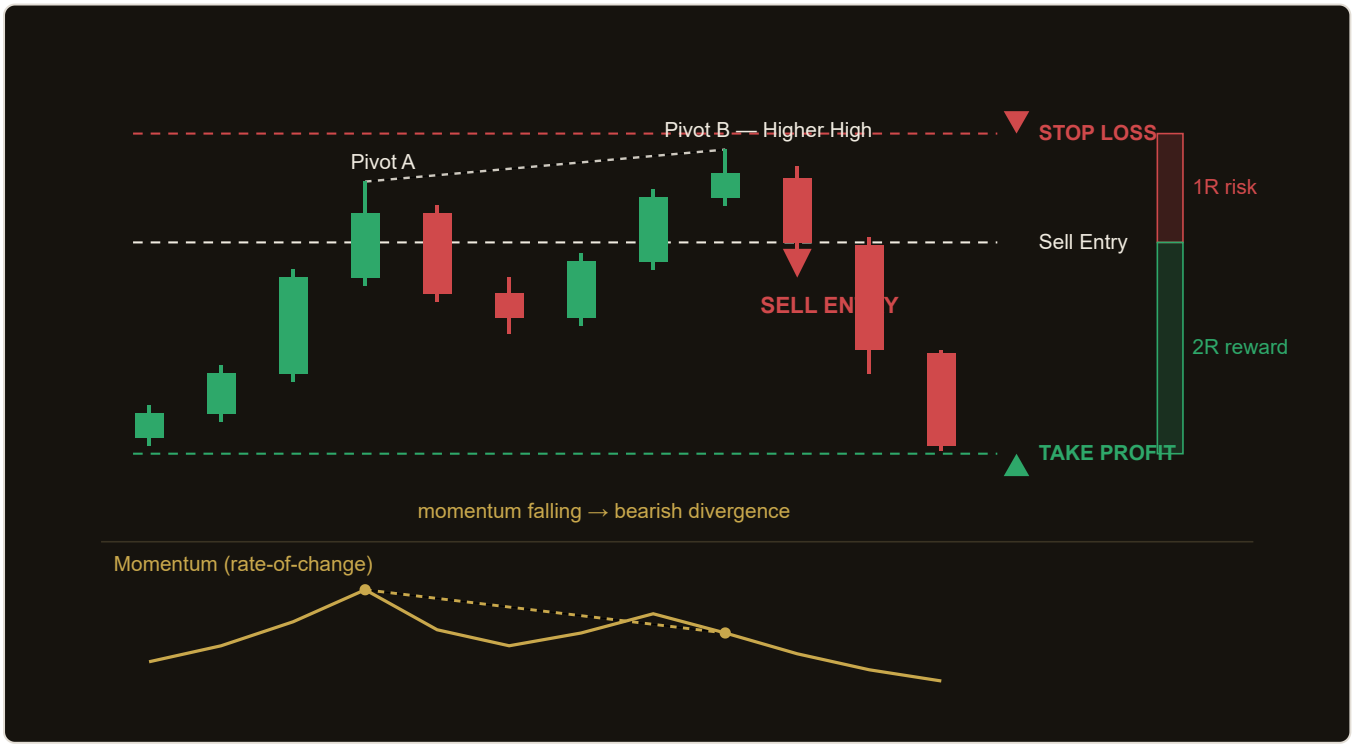
Here `risk` is the distance between entry and stop, and the take profit is placed at a fixed `RewardRisk` multiple of that distance. If the computed risk is not positive (or the lot size is invalid), no order is sent.

Worked example — bearish divergence short

Price makes a new swing high at 1.10850 while momentum at that high reads lower than at the previous high — the EA arms a short. Two bars later a decisive bearish candle closes below the prior close, triggering a sell at Bid 1.10600. The pivot bar's range was 0.00200, so with `StopBufferFraction = 0.20` the stop sits at 1.10850 + 0.00200 × 0.20 = 1.10890. Risk = 0.00290; with `RewardRisk = 2.0` the target is 1.10600 − 0.00580 = 1.10020.

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 **bearish momentum divergence**: price makes a higher swing high while the momentum reading beneath it falls, followed by a decisive bearish confirmation candle that triggers the short.



Illustrative example only. Actual market behaviour varies.

Parameters

All parameters below are exposed as MT5 inputs. Defaults, along with the optimisation ranges used by the Algobot builder, are shown for reference.

Parameter	Default	Description
SwingLookback	`3`	Fractal half-width — the number of bars required on each side of a pivot for it to qualify as a swing high or low. Larger values detect only bigger, more significant swings. Range 2–6, step 1.
MomPeriod	`14`	Momentum (rate-of-change) lookback. Momentum at a pivot is `Close[pivot] - Close[pivot - MomPeriod]`. Range 5–40, step 1.
SetupExpiryBars	`5`	How many bars an armed setup stays valid while waiting for a decisive confirmation candle before it is discarded. Range 1–15, step 1.
RewardRisk	`2.0`	Reward-to-risk multiple used to place the take profit relative to the entry-to-stop distance. Range 1.0–5.0, step 0.5.
StopBufferFraction	`0.20`	Extra stop distance beyond the divergent pivot, expressed as a fraction of the pivot bar's high-to-low range. Range 0.0–1.0, step 0.05.
Lots	`0.10`	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	`5271`	Magic number identifying this EA's orders. Used to enforce one open position at a time and to isolate its trades from other EAs on the same account.

Recommended Settings

Because the strategy is derived entirely from candle geometry, it runs on any symbol and any timeframe. The following starting points are a sensible baseline; always validate on your own broker's data before going live.

- **Timeframe:** H1 or H4 for cleaner, more reliable swing structure; lower timeframes generate more setups but more noise.
- **Symbols:** liquid majors (e.g. EURUSD, GBPUSD, USDJPY) where swing structure is well defined and spreads are tight.
- **SwingLookback:** keep at 3 for a balance of sensitivity and significance; raise to 4–5 on lower timeframes to filter noise.

- **RewardRisk:** 2.0 is a robust default. Reversal entries at exhaustion favour a healthy reward multiple; lower it only if your win rate testing supports it.
- **Lots:** size so that the entry-to-stop distance represents a small, fixed percentage of account equity.

> **Tip.** Optimise `MomPeriod` and `SwingLookback` together — they jointly define what counts as a "swing" and how its momentum is measured. Use `SetupExpiryBars` to control how patient the EA is: a longer expiry gives confirmation more time to appear but risks entering later in the move.

> ⚠ **Reversal-strategy caution.** This EA deliberately trades *against* the immediate move, betting on exhaustion. In strong, persistent trends a "higher high on weaker momentum" can keep printing without reversing. The confirmation candle, pivot-invalidation rule, and setup expiry are there to limit — not eliminate — that risk. Test thoroughly across trending and ranging regimes.

How to Install on MetaTrader 5

1. Copy `MomentumDivergenceReversal.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

> Trading foreign exchange, CFDs, and other leveraged financial instruments involves substantial risk of loss and is not suitable for all investors. The strategies and tools described in this document are provided for **educational purposes only** and do not constitute financial advice, investment recommendations, or solicitation to trade. Always consult a qualified financial adviser before making trading decisions. Past backtest performance is not indicative of future results.