

Rsi Range Breakout

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Momentum Breakout

TIMEFRAME

M15 / M30

WEBSITE

www.algotbot.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

Rsi Range Breakout is a momentum breakout Expert Advisor driven by a single indicator: the Relative Strength Index (RSI). Where most systems read RSI for overbought/oversold extremes, this EA does something different — it treats the RSI line *itself* as a range, or “box,” that can break out.

The premise is that momentum tends to coil before it expands. When RSI spends a stretch of bars oscillating inside a band, it is quietly building a momentum range whose recent highest and lowest readings define the box top and floor. The moment RSI thrusts decisively *through* that box — and lands in genuinely directional territory — momentum has shifted gear, and that first thrust often leads the next directional leg in price. The EA lets RSI pick the side and rides the release.

Signal decisions use RSI and nothing else — no moving averages, no ATR, no Bollinger bands. The only price data it consults is raw candle highs and lows, used purely to place a *structural* stop. Because that stop and its profit target are derived from market structure rather than fixed pip distances, the strategy self-scales across symbols and timeframes without re-tuning point math.

How It Works

The Signal Engine: an RSI “box”

On every closed bar the EA records one RSI reading, building a rolling history. From the previous `RsiLookback` readings (excluding the current one) it computes two edges:

- **RSI High** — the highest RSI over the lookback window (the box *top*).
- **RSI Low** — the lowest RSI over the lookback window (the box *floor*).

Together these form the momentum box that the current RSI reading must break out of to generate a signal.

Entry Logic

The EA acts **once per newly-closed bar**. A trade is taken only when RSI both clears the box edge by a decisiveness margin and confirms the regime with a directional threshold:

- **Long** — current RSI pushes *above* RSI High by at least `BreakoutMargin` **AND** sits at or above `BullThreshold` (bullish-regime gate). RSI breaking its own recent ceiling while above the midline signals momentum expanding to the upside.
- **Short** — the mirror image: current RSI breaks *below* RSI Low by at least `BreakoutMargin` **AND** sits at or below `BearThreshold` (bearish-regime gate).

Why the threshold gate matters. The directional thresholds stop the EA from mistaking a small bounce off oversold — say RSI rising from 20 to 35, a “new local high” that is still bearish — for a genuine upside breakout. A break must occur in the *right half* of the RSI scale to count.

Exit Logic: structural stop & reward-to-risk target

Risk is placed against recent *price structure*, not a fixed pip count:

- **Stop Loss** — for a long, just *below* the lowest low of the last `StopLookback` bars; for a short, just *above* the highest high. The stop is buffered beyond that swing extreme by `StopBufferFrac` of the swing’s height. If price returns through the swing, the breakout has failed and the trade is out.
- **Take Profit** — a fixed `RewardRatio` multiple of the structural stop distance, letting post-breakout momentum run while keeping a consistent reward-to-risk profile.

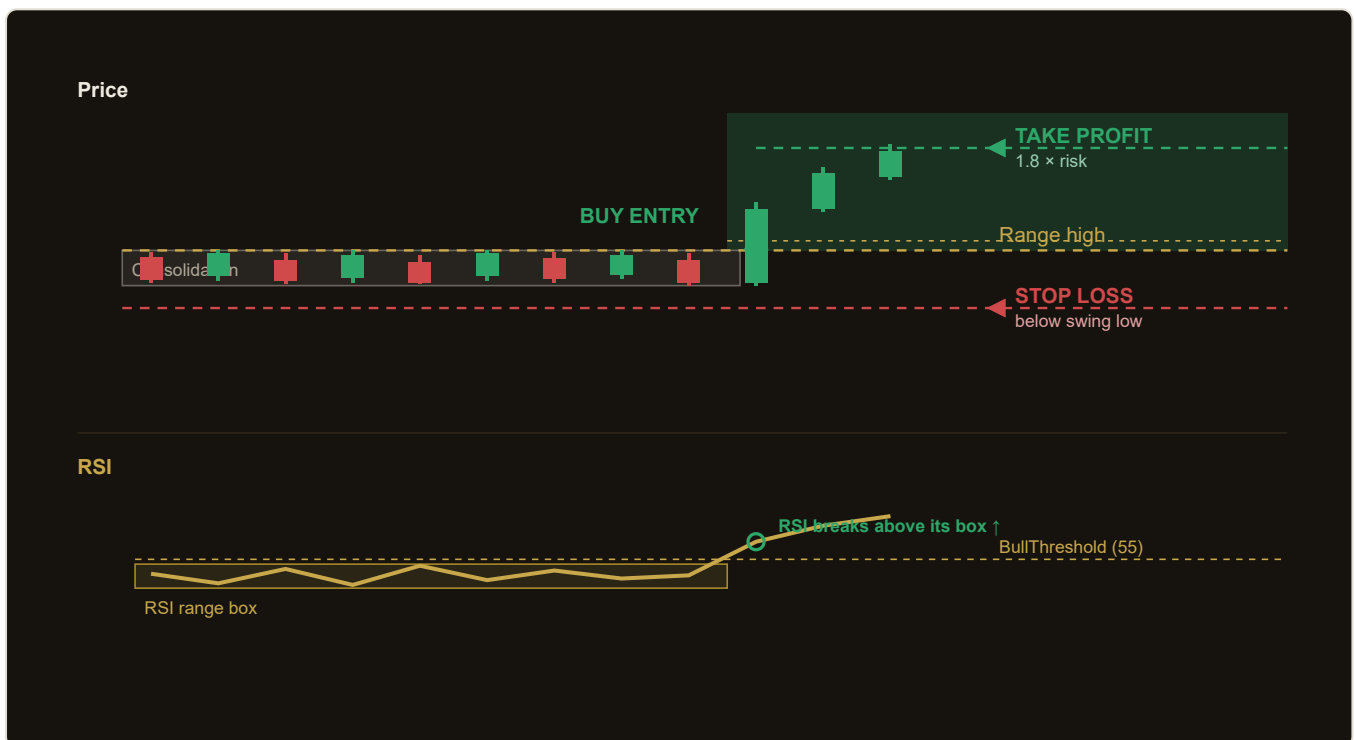
Once placed, the position is managed entirely by its stop and target — there is no trailing or averaging. Raw candle highs and lows are price structure, not an indicator, so the “RSI only” rule is honoured for every *signal* decision.

Trade Filters

- **One position per magic** — while a position tagged with this EA's `Magic` is open on the symbol, no new trade is taken; the structural stop/target handles the exit.
- **Spread gate** — if the current spread (in points) exceeds `MaxSpreadPoints`, the signal is skipped to avoid trading in poor conditions.
- **New-bar gating** — logic runs only on the first tick of each new bar, so signals are evaluated on confirmed, closed-bar RSI values.

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.

Reading the illustration

RSI coils inside its recent range (the gold box) while price chops sideways. On the breakout bar, RSI thrusts above the box top by more than `BreakoutMargin` and clears the `BullThreshold` (55) — a long is taken. The stop sits just below the recent price swing low, and the target is set at `RewardRatio` (1.8×) that stop distance.

Parameters

Parameter	Default	Description
RsiPeriod	14	RSI smoothing period. Range 7–28, step 1.
RsiLookback	20	How many prior RSI readings define the momentum box that must be broken. Range 8–60, step 2.
BreakoutMargin	2.0	RSI must clear the box edge by at least this many RSI points (decisiveness filter). Range 0.0–12.0, step 0.5.
BullThreshold	55.0	A long breakout only counts if RSI is at or above this level (bullish-regime gate). Range 50.0–70.0, step 1.0.
BearThreshold	45.0	A short breakout only counts if RSI is at or below this level (bearish-regime gate). Range 30.0–50.0, step 1.0.
StopLookback	10	Number of bars whose price swing (highest high / lowest low) defines the structural stop. Range 3–40, step 1.
StopBufferFrac	0.10	Stop buffer placed beyond the swing extreme, as a fraction of the swing's height. Range 0.00–1.00, step 0.05.
RewardRatio	1.80	Take-profit distance as a multiple of the structural stop distance. Range 0.80–4.00, step 0.10.
MaxSpreadPoints	30	Skip the trade if the current spread (in points) is wider than this. Range 1–200, step 1.
Lots	0.10	Trade volume in lots. Range 0.01–1.00, step 0.05.
Magic	6021	EA magic number used to identify and isolate this strategy's positions. Range 0–9,999,999, step 1.

Recommended Settings

The strategy is designed for liquid trending instruments where a fresh RSI breakout reflects a real regime change in order-flow pressure.

- **Symbols:** a liquid tender such as **GBPUSD** or **XAUUSD**.
- **Timeframes:** **M15** or **M30** — fast enough for several setups per session, slow enough that each RSI breakout carries weight.

- **Style:** momentum / breakout. Expect periods of inactivity while RSI coils, punctuated by decisive entries on the release.

Tuning tips. Raise `BreakoutMargin` or widen `BullThreshold` / `BearThreshold` to demand cleaner, more decisive breaks (fewer but higher-conviction trades). A larger `RsiLookback` builds a wider box that is harder to break, filtering chop further. Increase `StopLookback` or `StopBufferFrac` for more breathing room on the stop — at the cost of a wider risk and, with a fixed `RewardRatio`, a more distant target.

Always validate before live use. Backtest and forward-test on a demo account with your broker's spreads and execution before risking real capital. Because both stop and target scale with structure, results can differ meaningfully between symbols and volatility regimes.

How to Install on MetaTrader 5

- 1 Copy `RsiRangeBreakout.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.