

Pivot RSI Thrust

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Momentum Breakout

TIMEFRAME

H1 (works M15–H4)

WEBSITE

www.algotbot.live

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Overview

Pivot RSI Thrust is a momentum-continuation breakout Expert Advisor that fuses two classic concepts: **Pivot Points** and the **Relative Strength Index (RSI)**. Working on a single (primary) timeframe, it continuously rebuilds a rolling pivot — the central pivot **PP** together with its first resistance **R1** and first support **S1** — from a sliding window of recently completed bars.

Rather than fading levels, the strategy trades *with* the thrust through them. It buys the first time a bar **closes above R1** resistance, but only when RSI confirms that the move carries genuine bullish momentum — momentum that is real (above a trigger threshold) yet not already exhausted (below an upper cap). The short side is the exact mirror: it sells the first close **below S1** support with confirmed, non-exhausted bearish momentum. Once a position is open, the **Average True Range (ATR)** sets a volatility-scaled stop-loss and take-profit.

The result is a selective breakout engine: it ignores aimless drifts through a pivot and waits for a decisive close backed by an RSI reading inside a defined "momentum band."

How It Works

1. Rolling Pivot Construction

On every newly completed bar, the EA examines a window of the most recent `LookbackBars` bars sitting *behind* the breakout bar. From that window it captures the highest high (`HH`) and lowest low (`LL`), and takes the close of the bar immediately preceding the breakout bar as `lastClose`. The pivot set is then:

```
PP = (HH + LL + lastClose) / 3
R1 = 2 × PP - LL    (pivot resistance)
S1 = 2 × PP - HH    (pivot support)
```

Because the window slides forward one bar at a time, the pivot levels adapt continuously to the most recent price structure rather than being fixed for a session.

2. Fresh-Cross Detection

The EA acts only on a **fresh** breakout — the bar that first pierces the level, not bars that have already traded beyond it. Using the breakout bar's close (`breakClose`) and the prior bar's close (`priorClose`):

- **Fresh up-cross:** `priorClose ≤ R1` and `breakClose > R1`
- **Fresh down-cross:** `priorClose ≥ S1` and `breakClose < S1`

3. RSI Momentum Filter

A breakout is taken only when RSI sits inside a momentum band measured relative to the neutral 50 line. The band is bounded below by `RsiTrigger` (must be moving) and above by `RsiCap` (must not be exhausted):

- **Bullish gate:** `50 + RsiTrigger ≤ RSI ≤ 50 + RsiCap` → with defaults, `58 ≤ RSI ≤ 72`
- **Bearish gate:** `50 - RsiCap ≤ RSI ≤ 50 - RsiTrigger` → with defaults, `28 ≤ RSI ≤ 42`

Why a band, not a threshold? Most breakout filters only check that momentum exists. Pivot RSI Thrust adds a ceiling: a breakout occurring when RSI is already deep into overbought/oversold territory is more likely to be the *end* of a move than the start. The `RsiCap` rejects those exhausted thrusts.

4. Entry Logic

- **Long:** a fresh up-cross of `R1` and RSI inside the bullish band → market buy at the Ask.
- **Short:** a fresh down-cross of `S1` and RSI inside the bearish band → market sell at the Bid.

5. Exit Logic — ATR Stop & Target

Stops and targets are sized from current ATR so they breathe with volatility:

Long: $SL = \text{entry} - ATR \times SlAtrMult$ $TP = \text{entry} + ATR \times TpAtrMult$
Short: $SL = \text{entry} + ATR \times SlAtrMult$ $TP = \text{entry} - ATR \times TpAtrMult$

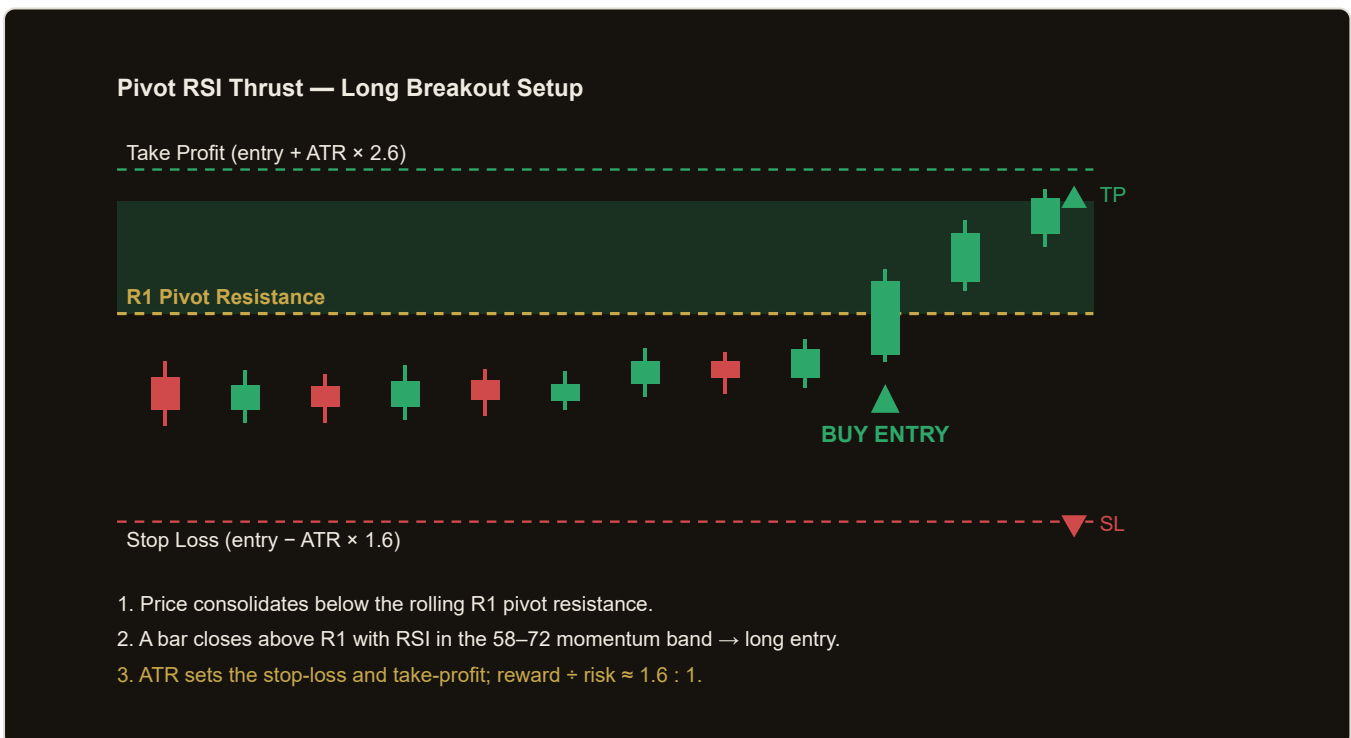
With the default multiples (**1.6** / **2.6**) each trade targets a reward-to-risk ratio of roughly **1.6 : 1**. A safety guard widens the stop if the ATR-derived distance is tighter than the symbol's spread plus a small buffer ($\text{spread} \times \text{point} + 5 \times \text{point}$), preventing an instantly-invalid stop on wide-spread instruments.

6. Trade Management

- **New-bar gate:** the logic evaluates once per completed bar, reading the just-closed bar (shift 1) — never mid-bar.
- **One position per magic:** while a position tagged with this EA's magic number is open, no new entries are taken.
- **Cooldown:** after a trade closes, the EA waits `CooldownBars` completed bars before it may enter again, damping over-trading in choppy conditions.

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
LookbackBars	24	Number of completed bars in the rolling pivot window. Range 8–80, step 2. Larger values produce smoother, slower-moving pivot levels.
RsiPeriod	14	Averaging period for the RSI momentum filter. Range 5–30, step 1.
RsiTrigger	8.0	Minimum RSI distance from 50 required to confirm momentum. With the default, longs need $RSI \geq 58$ and shorts need $RSI \leq 42$. Range 2.0–25.0, step 1.0.
RsiCap	22.0	Maximum RSI distance from 50 (exhaustion guard). With the default, longs are capped at $RSI \leq 72$ and shorts at $RSI \geq 28$. Range 8.0–40.0, step 1.0.
AtrPeriod	14	Averaging period for the ATR used to size the stop-loss and take-profit. Range 5–40, step 1.
SIATRmult	1.6	Stop-loss distance as a multiple of ATR. Range 0.5–5.0, step 0.1.
TpATRmult	2.6	Take-profit distance as a multiple of ATR. Range 0.6–8.0, step 0.1.
CooldownBars	2	Completed bars to wait after a trade before another entry is allowed. Range 0–20, step 1.
Lots	0.10	Fixed trade volume in lots. Range 0.01–1.0, step 0.01.
Magic	1001	Magic number that identifies and isolates this EA's positions on the account.

Recommended Settings

The defaults are tuned for liquid major FX pairs on the **H1** timeframe, but the logic is timeframe-agnostic and runs from M15 through H4. Because the pivot window is measured in bars, the same `LookbackBars` covers a very different span of time on different timeframes — review it when you change charts.

STARTING POINT

- **Symbols:** liquid majors such as EURUSD, GBPUSD, USDJPY, or XAUUSD.
- **Timeframe:** H1 for the default lookback; drop to M15 for more signals, raise to H4 for fewer, higher-quality ones.
- **Risk:** keep `Lots` conservative and size it to your account — the EA uses a fixed lot, so position size does not scale automatically.

Tuning the momentum band. Widen the band (lower `RsiTrigger` , raise `RsiCap`) to take more breakouts in trending markets; tighten it (raise `RsiTrigger` , lower `RsiCap`) to demand stronger, fresher thrusts in ranging conditions. Keep `RsiCap > RsiTrigger` so the band stays valid.

Example — default long setup on EURUSD H1

Over the last 24 bars the window high/low/close produce `R1 = 1.0865` . The prior bar closes at 1.0862 (below R1), the next bar closes at 1.0871 (a fresh close above R1), and RSI reads 63 — inside the 58–72 band. The EA buys at the Ask. With `ATR = 0.0010`, the stop sits 16 pips below entry ($1.6 \times ATR$) and the target 26 pips above ($2.6 \times ATR$).

Backtest before going live. Always validate any parameter set in the MT5 Strategy Tester on your broker's data — spreads, pivot behaviour, and ATR scale vary between brokers and symbols.

How to Install on MetaTrader 5

- 1 Copy `PivotRSIThrust.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

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