

Pivot RSI Divergence

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Mean Reversion (Reversal)	M30 / H1	www.algotbot.live

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Overview

Pivot RSI Divergence is a swing-trading **reversal** system that fades exhausted moves at objective support and resistance. It rests on a confluence of just two ideas: classic floor **pivot points**, which map *where* a turn is likely, and **RSI divergence**, which confirms *whether* the move that reached that level is actually running out of fuel. There are no moving averages and no bands — Average True Range (ATR) is used only to size the protective stop.

The core insight is that neither signal is reliable on its own. A naked RSI-divergence print fires all over the chart and gets run over in trends; a naked pivot bounce assumes every touch of S1/R1 holds, which it does not. By requiring the divergence to occur *at* a pivot demand or supply level, the EA keeps only the setups where fading momentum meets a price the market already respects — the combination that precedes durable reversals while filtering out the lone-signal noise that wrecks single-condition systems.

In one sentence: the EA goes long when price prints a *lower low* but RSI prints a *higher low* at a pivot demand zone, and goes short on the mirror image (a *higher high* with a *lower RSI high*) at a pivot supply zone — always with a structural stop and a fixed reward-to-risk target.

How It Works

1. Floor pivot levels (where)

On every evaluation the EA rebuilds floor pivots from the most recent `PivotPeriod` closed bars, so it stays timeframe-agnostic and uses only the primary chart timeframe. From the window's highest high (`H`), lowest low (`L`), and the last closed bar's close (`C`):

```
PP = (H + L + C) / 3
R1 = 2 * PP - L      (resistance)
S1 = 2 * PP - H      (support)

buyZoneTop  = S1 + PivotTolFrac * (PP - S1)  (demand: near / below support)
sellZoneBot = R1 - PivotTolFrac * (R1 - PP)  (supply: near / above resistance)
```

The `PivotTolFrac` parameter widens each zone toward the central pivot, so a swing does not have to touch S1/R1 exactly to count as being "at" support or resistance.

2. Fractal swings & RSI divergence (whether)

Swing extremes are detected with a symmetric **fractal** of half-width `SwingHalf`. A bar is a confirmed swing *low* when its low is the strict minimum of the `SwingHalf` bars on each side; a swing *high* is the mirror. Each confirmed swing stores its price and the RSI reading on that bar. The EA keeps the last two swing lows and the last two swing highs in memory.

Because a swing only confirms `SwingHalf` bars after it forms, price has already turned by the time the EA acts — the signal is evaluated the moment a *new* swing confirms.

3. Entry rules

- **Long** — a new swing **low** with `low2 < low1` (a lower low in price) but `rsi2 > rsi1` (a higher RSI low — bullish divergence), the two lows no more than `DivMaxGap` bars apart, and `low2 ≤ buyZoneTop` (inside the pivot demand zone).
- **Short** — a new swing **high** with `high2 > high1` and `rsi2 < rsi1` (bearish divergence), within `DivMaxGap` bars, and `high2 ≥ sellZoneBot` (inside the pivot supply zone).

4. Exit, stops & targets

Risk is structural and self-scaling. The stop sits just beyond the confirmed swing extreme, buffered by ATR:

```
LONG:  SL = swingLow - StopAtrMult * ATR
       risk = entry - SL
       TP = entry + RewardRatio * risk

SHORT: SL = swingHigh + StopAtrMult * ATR
       risk = SL - entry
       TP = entry - RewardRatio * risk
```

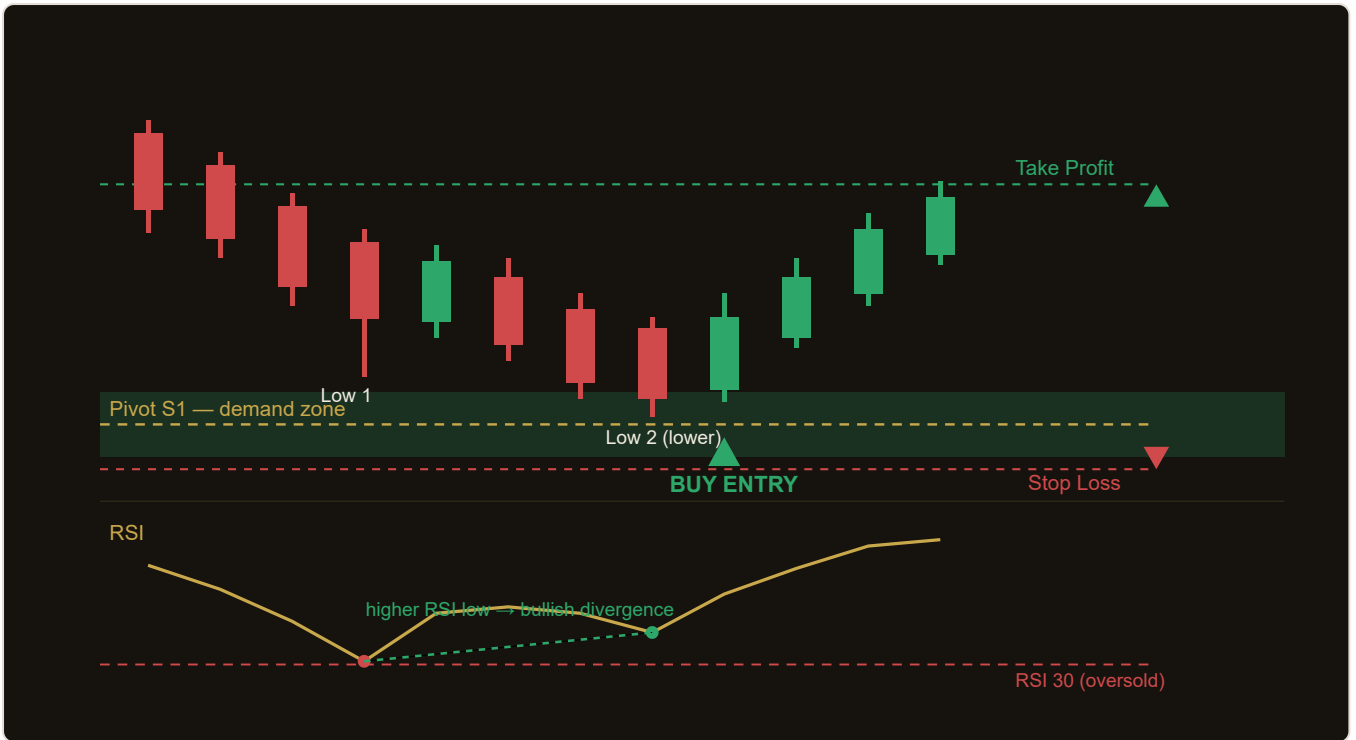
There is no trailing stop or manual close logic — the fixed stop-loss and take-profit manage the trade to completion. The take-profit is always a `RewardRatio` multiple of the structural stop distance, so wider stops automatically get proportionally wider targets.

5. Trade filters

- **One position per Magic** — the EA never stacks; it holds at most a single open position per magic number on the symbol.
- **Spread gate** — if the current spread (in points) exceeds `MaxSpreadPoints`, the signal is skipped to avoid illiquid ticks.
- **Warm-up** — the EA requires a minimum bar history (driven by the largest of `PivotPeriod`, `AtrPeriod` and `RsiPeriod`, plus the fractal width) before it will trade.

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 the **long** case: price drives to a lower low into the pivot demand zone, but RSI carves a higher low (bullish divergence), and the EA fades the exhausted move upward toward its take-profit.



Illustrative example only. Actual market behaviour varies.

Reading the setup

Price falls to *Low 1*, bounces, then drops to a deeper *Low 2* inside the pivot demand zone (S1). Crucially, RSI's second low is *higher* than its first — momentum is fading even as price makes a new extreme. The EA enters long on the bar where *Low 2* confirms, places its stop a fraction of an ATR below *Low 2*, and targets $\text{RewardRatio} \times$ that distance. The short setup is the exact mirror at the pivot supply zone (R1).

Parameters

Parameter	Default	Description
PivotPeriod	20	Bars forming the rolling pivot reference window — the synthetic "prior period" used to compute PP, R1 and S1. Range 8–60, step 2.
RsiPeriod	14	RSI smoothing period used to read momentum at each swing. Range 7–28, step 1.
SwingHalf	2	Fractal half-width: the number of bars required on each side to confirm a swing pivot. Larger values give fewer, more significant swings. Range 1–5, step 1.
DivMaxGap	30	Maximum bars allowed between the two swing extremes for a divergence to be considered valid. Range 6–80, step 2.
PivotTolFrac	0.30	How far inside the pivot range still counts as "at" support / resistance (fraction toward the central pivot). 0 = exact touch only, 1 = the whole half-range. Range 0.00–1.00, step 0.05.
AtrPeriod	14	ATR period used to size the stop buffer. Range 7–30, step 1.
StopAtrMult	0.80	Stop buffer beyond the swing extreme, in ATR multiples. Larger values place the stop further from price. Range 0.10–3.00, step 0.10.
RewardRatio	1.80	Take-profit distance as a multiple of the structural stop distance (reward-to-risk). Range 0.80–4.00, step 0.10.
MaxSpreadPoints	30	Skip the trade if the current spread (in points) is wider than this, to avoid illiquid ticks. Range 1–200, step 1.
Lots	0.10	Order volume in lots. Range 0.01–1.00, step 0.05.
Magic	4271	Magic number identifying this EA's positions. Use a unique value per chart so the one-position-per-magic rule works correctly. Range 0–9,999,999, step 1.

Recommended Settings

The strategy is designed for a mean-reverting major pair on a swing-style timeframe. The defaults above are a sensible starting point.

- **Symbols:** liquid, mean-reverting majors such as **GBPUSD** or **EURUSD**.
- **Timeframe:** **M30** or **H1** — swing horizons where pivots and divergence carry the most information.

- **Style:** reversal / mean reversion. Expect relatively few, selective trades; the dual-confirmation filter is meant to keep you out of trends rather than catch every wiggle.

Tuning tips: raise `SwingHalf` for fewer but more meaningful swings; tighten `PivotTolFrac` toward 0 to demand cleaner touches of S1/R1; and adjust `RewardRatio` to match the pair's typical reversal extent. Always re-test on the specific symbol and broker before going live.

Note on risk: trade volume is fixed at the `Lots` value — it does not scale to account equity. Size `Lots` to your own risk tolerance, and remember that reversal systems can suffer a run of losses when a strong trend refuses to turn.

How to Install on MetaTrader 5

- 1 Copy `PivotRSIDivergence.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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