

# Stochastic Rsi Trend Pullback

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend-Following Pullback	H1 (recommended)	<a href="http://www.algotbot.live">www.algotbot.live</a>

**⚠ 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

**Stochastic Rsi Trend Pullback** is an Expert Advisor that trades in the direction of an established trend but waits patiently to enter *on the pullback* — buying the dip in an uptrend and selling the rally in a downtrend. It combines two complementary filters so that it stays on the right side of momentum while still entering at a favourable price.

- **Trend regime** — an Exponential Moving Average (EMA) of closing prices defines the market direction. Long trades are permitted only when price is above a *rising* EMA; short trades only when price is below a *falling* EMA.
- **Entry timing** — a smoothed **Stochastic RSI** oscillator identifies when a temporary pullback has exhausted itself. The oscillator must first reach an extreme (oversold or overbought) and then *reverse back across the threshold* before a trade is taken, which filters out shallow, low-conviction noise.

The confluence of "trend agrees" plus "oscillator reversed from an extreme" is what gives the strategy its favourable reward-to-risk profile. Every position is protected with volatility-adaptive stops and targets derived from the Average True Range (ATR), so the trade math scales automatically with market conditions. The EA operates on a single timeframe (the chart it is attached to) and evaluates its rules once per completed bar.

# How It Works

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## 1. The Stochastic RSI oscillator

Stochastic RSI is a "momentum of momentum" indicator. The EA first computes the classic **RSI** over `RsiPeriod` bars, then normalises that RSI value to its own recent minimum/maximum range over `StochPeriod` bars, producing a raw value between 0 and 1. Finally the raw series is averaged over `SmoothK` bars into the smoothed **%K** line:

```
rawStochRSI = (RSI - min(RSI, StochPeriod)) / (max(RSI, StochPeriod) - min(RSI, StochPeriod))
%K          = average of the last SmoothK raw values
```

When the min/max range is effectively zero the raw value defaults to a neutral `0.5`. Values near `0.0` mean the market is deeply oversold; values near `1.0` mean it is overbought.

## 2. Trend filter

On every completed bar the EA reads the EMA level and its one-bar slope:

- **Uptrend** — closing price is *above* the EMA **and** the EMA is higher than it was one bar ago (rising).
- **Downtrend** — closing price is *below* the EMA **and** the EMA is lower than it was one bar ago (falling).

If neither condition holds, no new trade is considered on that bar.

## 3. Entry logic

An entry fires only when the trend filter agrees *and* the %K line has just crossed back over its extreme threshold — confirming the pullback is finished:

- **Long (Buy)** — uptrend is active, the previous %K was *below* `OversoldLevel`, and the current %K has risen back to or above `OversoldLevel`.
- **Short (Sell)** — downtrend is active, the previous %K was *above* `OverboughtLevel`, and the current %K has fallen back to or below `OverboughtLevel`.

**Note:** requiring the oscillator to *first reach* the extreme and *then reverse across* the level is the key to the strategy. A single deep dip is not enough — the EA waits for the turn back, which sidesteps most of the false signals generated by trading extremes directly.

## 4. Position management & risk

The EA holds **one position at a time** per magic number. When a valid signal appears and no position is open, it measures the current `AtrPeriod` ATR and derives the protective levels from it:

- **Long:** entry at the Ask; Stop Loss = entry - ATR × `SlAtrMult`; Take Profit = entry + ATR × `TpAtrMult`.

- **Short:** entry at the Bid; Stop Loss = entry + ATR × `SlAtrMult` ; Take Profit = entry – ATR × `TpAtrMult` .

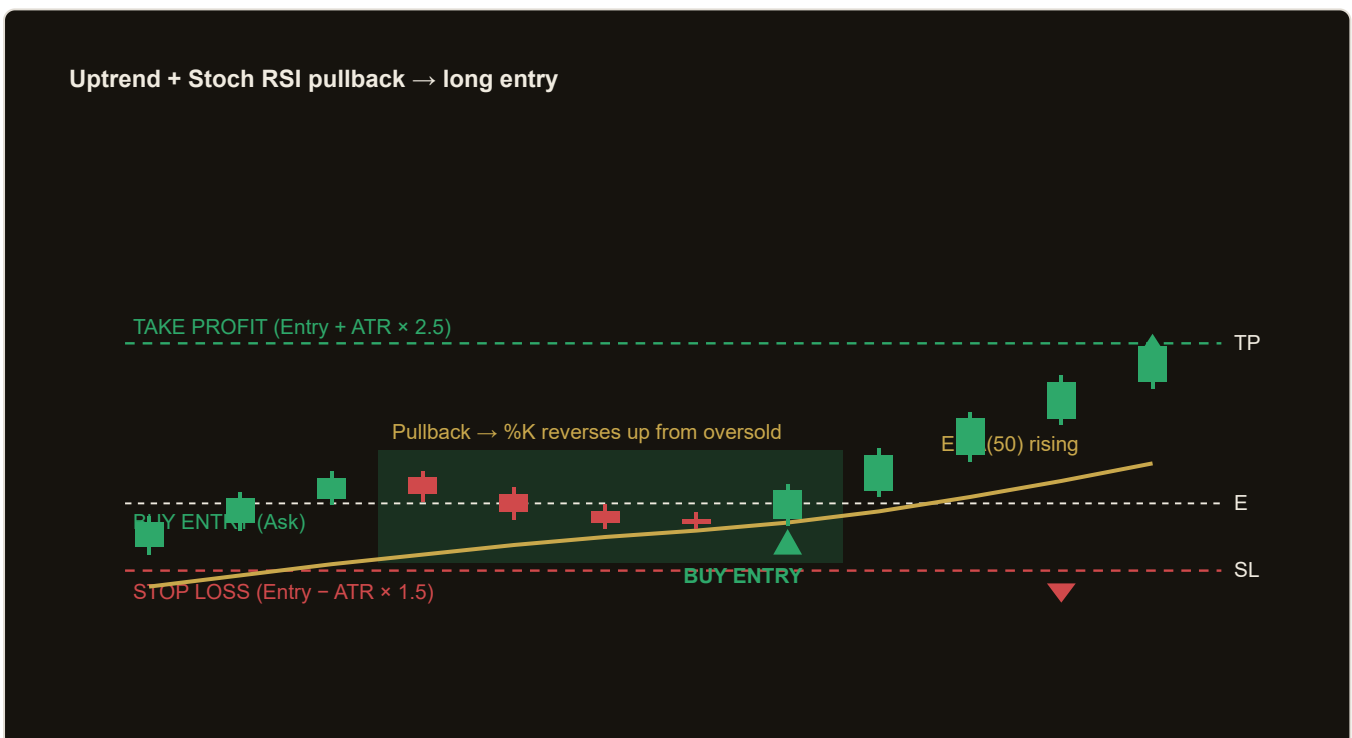
With the default multipliers ( `SlAtrMult = 1.5` , `TpAtrMult = 2.5` ) the target is roughly **1.67×** the risk, giving a positive reward-to-risk ratio on winning trades. Because both levels are expressed in ATR units, the stop and target automatically widen in volatile conditions and tighten in quiet ones. If ATR reads as zero (insufficient data), the trade is skipped.

### Example — long pullback entry

Price is trending up above a rising EMA(50). A minor pullback drives Stochastic RSI %K down to 0.12 (below the 0.20 oversold level). On the next bar %K ticks back up to 0.23, crossing the threshold. With ATR = 20 pips and default multipliers, the EA buys at the Ask, sets the Stop Loss 30 pips below entry (20 × 1.5) and the Take Profit 50 pips above entry (20 × 2.5).

## 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

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Parameter	Default	Description
RsiPeriod	14	Length of the RSI that feeds the Stochastic RSI calculation. Range 5–30, step 1.
StochPeriod	14	Lookback window used to normalise the RSI to its own min/max range. Range 5–40, step 1.
SmoothK	3	Number of bars used to smooth the raw Stochastic RSI into the %K line (clamped to a minimum of 1). Range 1–8, step 1.
EmaPeriod	50	Length of the trend-filter EMA. Longer values track the broader trend; shorter values react faster. Range 20–200, step 5.
OversoldLevel	0.20	%K threshold defining the oversold zone for long pullback entries. Range 0.05–0.40, step 0.05.
OverboughtLevel	0.80	%K threshold defining the overbought zone for short pullback entries. Range 0.60–0.95, step 0.05.
AtrPeriod	14	ATR length used to size the volatility-based Stop Loss and Take Profit. Range 5–30, step 1.
SlAtrMult	1.5	Stop Loss distance as a multiple of ATR. Range 0.5–4.0, step 0.25.
TpAtrMult	2.5	Take Profit distance as a multiple of ATR. Range 0.5–6.0, step 0.25.
Lots	0.10	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	1001	Magic number identifying this EA's trades so it manages only its own positions.

## Recommended Settings

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The defaults are a balanced starting point suitable for liquid FX majors on the **H1** timeframe. Adjust to match the instrument's character and your risk tolerance.

- **Symbols:** liquid, trending instruments such as EUR/USD, GBP/USD, or major indices where pullbacks resolve cleanly.
- **Timeframe:** H1 for the balance of signal frequency and reliability; H4 for fewer, higher-quality setups.
- **Trend filter:** keep `EmaPeriod` at 50 for H1; raise it (e.g. 100–200) if you want to trade only the dominant longer-term trend.
- **Oscillator thresholds:** the 0.20 / 0.80 pair captures moderate pullbacks. Tighten toward 0.10 / 0.90 for rarer, deeper reversals; widen toward 0.30 / 0.70 for more frequent signals.

- **Risk sizing:** keep `SlAtrMult` below `TpAtrMult` to preserve a positive reward-to-risk ratio, and set `Lots` so the ATR-based stop risks only a small fraction of account equity per trade.

**Tip:** always run the EA in the MT5 Strategy Tester across several years of history for your chosen symbol and timeframe before deploying it live. Optimise `EmaPeriod`, the oversold/overbought pair, and the ATR multipliers together — they interact strongly.

## How to Install on MetaTrader 5

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- 1 Copy `StochasticRsiTrendPullback.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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