

# RSI Failure Swing

Expert Advisor Documentation

## PLATFORM

MetaTrader 5  
(MT5)

## TYPE

Mean Reversion (Momentum  
Reversal)

## TIMEFRAME

Configurable (H1  
recommended)

## WEBSITE

[www.algotbot.live](http://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 Failure Swing** is a momentum-reversal Expert Advisor based on Welles Wilder's classic *failure swing* pattern. Unlike a naive "RSI below 30 → buy" rule, the signal lives entirely on the **shape of the RSI line itself** — not on simple price-level crosses. This makes the system considerably more selective and filters out the majority of false oversold/overbought signals that catch simpler indicators.

A failure swing confirms that momentum has *structurally* turned before a trade is taken. The EA runs two mirrored state machines — one watching for bullish reversals near the oversold floor and one watching for bearish reversals near the overbought ceiling. Every trade is protected with an **ATR-based stop-loss and take-profit**, so position risk automatically adapts to the current volatility regime on whatever timeframe is selected.

**Why a failure swing?** A plain oversold reading only tells you a market is stretched — it can stay stretched for a long time. A failure swing adds a confirmation structure (a higher low that holds, followed by a break of the prior recovery peak), giving objective evidence that buyers have actually regained control before committing capital.

## How It Works

---

The EA acts **once per completed bar**. On each new bar it reads the RSI of the just-closed candle, advances the two failure-swing detectors, and — only when a detector fires — reads the current ATR to size and place a trade.

### Bullish Failure Swing (Long Entry)

The bullish detector tracks four ordered events around the **Oversold** level:

1. **First low (L1)**: RSI drops into oversold, printing an initial low *below* the Oversold level.
2. **Recovery peak (P)**: RSI climbs back *above* Oversold to an interim peak — "the fail point".
3. **Second low (L2)**: RSI pulls back to a second low that *holds above* Oversold and is *higher* than L1 (a higher low).
4. **Break of fail point**: RSI breaks back above peak P → **enter LONG**. Momentum has structurally turned up.

If the pullback in step 3 instead makes a *new* oversold low, the detector restarts cleanly with that low as the new L1.

### Bearish Failure Swing (Short Entry)

The bearish detector is the exact mirror around the **Overbought** level: a first high (H1) above Overbought, a recovery *trough* back below Overbought (the fail point), a second high (H2) that holds below Overbought and is *lower* than H1, and finally a break back below the trough → **enter SHORT**.

### Exit Logic — ATR Stop & Target

There is no separate exit signal; each position carries a fixed stop-loss and take-profit set at entry from the Average True Range (ATR) of the signal bar:

Long:     $SL = Ask - ATR \times SlAtrMult$        $TP = Ask + ATR \times TpAtrMult$   
Short:    $SL = Bid + ATR \times SlAtrMult$        $TP = Bid - ATR \times TpAtrMult$

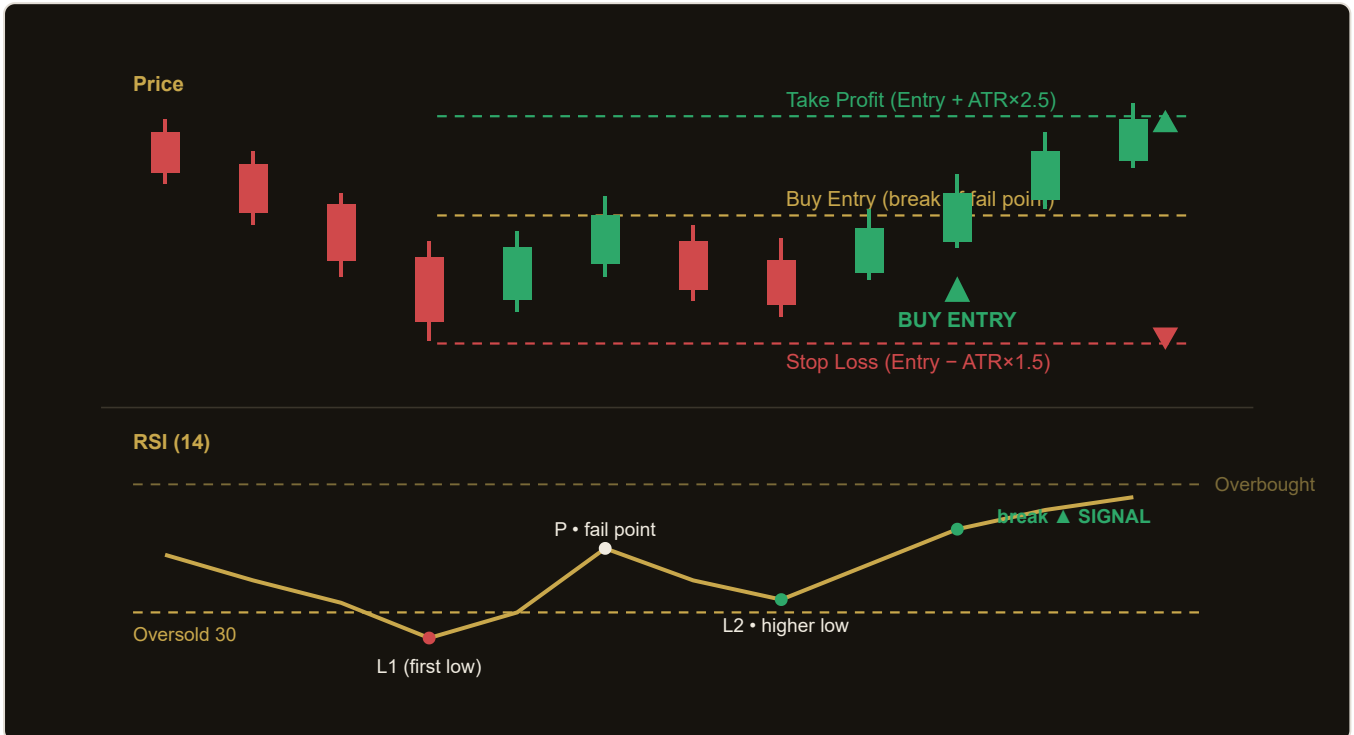
Because both levels scale with ATR, stops widen automatically in volatile conditions and tighten in calm ones — the system keeps a consistent volatility-normalised risk profile across regimes.

### Position Management

- **One position per side**: at most a single long or single short is open at any time.
- **Auto-flatten on reversal**: a new long signal first closes any open short (and vice-versa), so the EA is never hedged against itself.
- **Magic-number scoped**: all order management is filtered by the EA's Magic number and the chart symbol, so it never touches trades it did not open.

## 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. The lower panel shows the RSI failure-swing structure (L1 → recovery peak P → higher low L2 → break above P), which produces the long entry on the price panel above.



*Illustrative example only. Actual market behaviour varies.*

## Parameters

All inputs below are exposed in the MT5 strategy properties dialog. Ranges shown are the optimiser bounds used during backtesting.

Parameter	Default	Description
RsiPeriod	14	Lookback period for the Wilder RSI oscillator. Optimiser range 5–30 (step 1). Lower values react faster but produce noisier swings.
Oversold	30.0	RSI level defining oversold territory; the bullish failure swing forms around this floor. Range 15–40 (step 1.0).
Overbought	70.0	RSI level defining overbought territory; the bearish failure swing forms around this ceiling. Range 60–85 (step 1.0).
AtrPeriod	14	Lookback period for the ATR used to size the 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 0.1). Larger = wider stop, fewer premature exits.
TpAtrMult	2.5	Take-profit distance as a multiple of ATR. Range 0.5–6.0 (step 0.1). Sets the reward leg of the risk/reward ratio.
Lots	0.10	Fixed order volume in lots. Range 0.01–1.0 (step 0.05). Size to your account and risk tolerance.
Magic	7720	Unique identifier tagging this EA's orders so it manages only its own positions.

**Risk/reward note:** with the defaults ( `SlAtrMult = 1.5` , `TpAtrMult = 2.5` ) each trade targets roughly a **1 : 1.67** reward-to-risk ratio. The strategy can therefore remain profitable even with a sub-50% win rate, provided the failure-swing filter keeps the average loser near the 1.5×ATR stop.

## Recommended Settings

The defaults are a balanced starting point for major FX pairs. Adjust to your instrument's character before going live.

- **Symbol & timeframe:** major FX pairs (e.g. EURUSD, GBPUSD) on **H1**. Higher timeframes produce fewer but cleaner failure swings; lower timeframes increase frequency and noise.
- **RSI period:** keep `14` for classic behaviour. Drop toward 9–11 for more setups on faster instruments.
- **Oversold / Overbought:** the standard `30 / 70` band suits most markets. Widening to `25 / 75` makes the EA more selective (fewer, higher-conviction signals).
- **ATR stops:** the `1.5 / 2.5` pairing balances survivability against reward. Trend-prone instruments may justify a larger `TpAtrMult`.

### Example: conservative H4 configuration

`RsiPeriod = 14` , `Oversold = 25` , `Overbought = 75` , `AtrPeriod = 14` , `SlAtrMult = 2.0` , `TpAtrMult = 3.0` . The wider RSI band and larger ATR multipliers trade fewer setups for a higher reward leg — suited to swing-style trading on H4.

**Tip:** always run the MT5 Strategy Tester across several years and multiple symbols before committing capital. Optimise within the parameter ranges shown, then validate the chosen settings on an out-of-sample period the optimiser never saw.

## How to Install on MetaTrader 5

- 1 Copy `RSIFailureSwing.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

**Source files:** the compiled `RSIFailureSwing.ex5` ships alongside its `RSIFailureSwing.mq5` source and this `RSIFailureSwing.pdf` guide. Recompile the `.mq5` in MetaEditor if your broker requires a locally built binary.

## 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.