

# Protected Swing Breakout

Expert Advisor Documentation

## PLATFORM

MetaTrader 5 (MT5)

## TYPE

Price-Action Breakout (ICT Break of Structure)

## TIMEFRAME

H1 / H4

## WEBSITE

[www.algotbot.live](http://www.algotbot.live)

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## Overview

**Protected Swing Breakout** is a pure price-action Expert Advisor built on the ICT concept of a *Break of Structure* (BoS). It uses **no indicators** — all of its decisions come directly from raw candle highs, lows, opens and closes.

The EA continuously maps market structure by locating confirmed **fractal swing pivots**: a swing high or swing low that dominates a fixed number of bars ( `SwingLookback` ) on *each* side. The most recent confirmed swing high becomes the bullish structural level; the most recent confirmed swing low becomes the bearish one.

A trade is taken only when a candle **closes through** one of these structural levels *and* that breaking candle is large enough to qualify as genuine momentum (a **displacement filter**). This combination is designed to distinguish a true Break of Structure from a shallow liquidity grab. The stop loss is hidden behind the opposing “protected” swing, and the take profit is placed at a fixed R-multiple of that structural risk.

**Core idea:** structure first, momentum second. Price must both *close beyond* the last confirmed swing and do so with a candle range at least `DisplacementFactor` times the recent average range. Quiet, indecisive breaks are ignored.

# How It Works

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## 1. Mapping market structure

On each newly closed bar, the EA checks whether the candle `SwingLookback` bars back is a confirmed fractal pivot — meaning no candle within `SwingLookback` bars on either side has a higher high (for a swing high) or a lower low (for a swing low). Each confirmed pivot updates the active structure:

- **Last swing high** — the freshest bullish structural level (the price a bullish break must close above).
- **Last swing low** — the freshest bearish structural level, and the *protected* low used to anchor long stops.

## 2. The displacement filter

Before any signal, the EA measures the average candle range over the previous `RangeAvgPeriod` bars. The breaking candle qualifies as a momentum move only if its own high-to-low range is at least `DisplacementFactor × avgRange`. This is what separates a real BoS from a weak poke through the level.

## 3. Entry logic

- **Bullish Break of Structure** — triggered when the breaking candle is bullish (close > open), is displaced, and **closes above** the last confirmed swing high. Entry is taken at the Ask.
- **Bearish Break of Structure** — triggered when the breaking candle is bearish (close < open), is displaced, and **closes below** the last confirmed swing low. Entry is taken at the Bid.

Each structural level can be traded only **once**. After a long fires off a given swing high (or a short off a given swing low), that exact level is recorded and will not be re-entered until fresh structure forms.

## 4. Stop loss & take profit

- **Long stop loss** is placed just below the protected swing low: `swingLow - buffer`.
- **Short stop loss** is placed just above the protected swing high: `swingHigh + buffer`.
- The **buffer** is `0.15 × avgRange` — a small structural padding so price has room before the stop is hit.
- **Take profit** is set at a fixed reward-to-risk multiple: `TP = entry ± (RiskRewardRatio × risk)`, where `risk` is the distance from entry to stop.

### Worked example (bullish BoS)

Say the last confirmed swing high sits at `1.10250` and the protected swing low at `1.09900`, with an average range producing a buffer of `0.00030`. A displaced bullish candle closes at `1.10310` (above the swing high), so a long is opened at the Ask, e.g. `1.10320`.

Stop loss = `1.09900 - 0.00030 = 1.09870` → risk = `0.00450`.

With `RiskRewardRatio = 2.0`, take profit = `1.10320 + 2.0 × 0.00450 = 1.11220`.

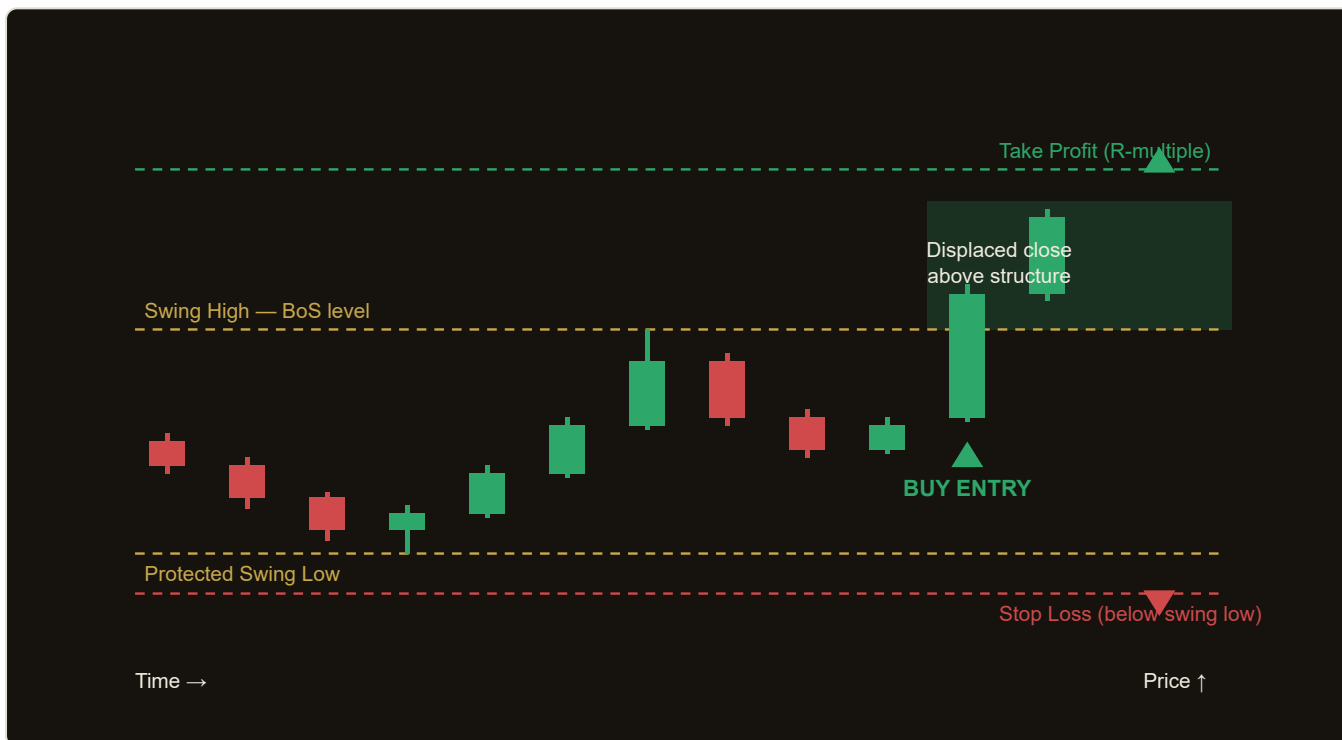
## 5. Trade & position management

- **One decision per closed bar** — the EA acts only on new-bar transitions, never intra-bar.
- **One position at a time** — while a position with this EA's magic number is open, no new entries are taken.
- **No floating exits** — positions are closed purely by their attached stop loss or take profit; there is no trailing stop or breakeven logic.
- Fixed volume per trade via the `Lots` input. Orders are tagged `BoS-long` / `BoS-short` for easy identification.

## Strategy in Action

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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
SwingLookback	3	Number of bars a candle must dominate on <i>each</i> side to be confirmed as a fractal swing pivot. Lower values react faster to structure; higher values demand more significant swings. Range 2–6, step 1.
RangeAvgPeriod	14	Lookback used to compute the average candle range that the displacement filter and stop buffer are measured against. Range 5–30, step 1.
DisplacementFactor	1.3	The breaking candle's range must be at least this multiple of the recent average range to qualify as a true momentum break. Higher values require stronger displacement. Range 1.0–2.5, step 0.1.
RiskRewardRatio	2.0	Take-profit distance expressed as a multiple of the structural risk (entry-to-stop distance). At 2.0 the target is twice the risk. Range 1.0–5.0, step 0.5.
Lots	0.10	Fixed trade volume in lots for every position. Range 0.01–1.0, step 0.05.
Magic	778412	Unique EA magic number used to identify and manage this EA's positions. Use a distinct value per chart if running multiple instances.

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## Recommended Settings

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The defaults are a balanced starting point for liquid instruments on intraday structure. As a pure structural breakout system, the EA performs best where swings are clean and momentum follows through.

- **Symbol:** Major FX pairs (e.g. EURUSD, GBPUSD) or liquid indices with clear swing structure.
- **Timeframe:** H1 or H4 — high enough to produce meaningful fractal pivots and reduce noise-driven false breaks.
- **SwingLookback:** 3 (default). Increase toward 4–6 on noisier instruments to demand more significant structure.
- **DisplacementFactor:** 1.3 (default). Raise toward 1.6–2.0 in choppy conditions to filter out weak breaks.
- **RiskRewardRatio:** 2.0 (default). Trend-following breakouts often justify 2.0–3.0; tighten only if win rate is the priority.

**Tip:** Always run the EA in the Strategy Tester across your target symbol and timeframe before going live. Tune `SwingLookback` and `DisplacementFactor` together — they jointly control how selective the structure mapping and break confirmation are.

## How to Install on MetaTrader 5

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- 1 Copy `ProtectedSwingBreakout.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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