

Swing Extension Fade

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Mean Reversion (Price Action)

TIMEFRAME

H1 / H4 (Swing)

WEBSITE

www.algotbot.live

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Overview

Swing Extension Fade is a pure price-action, mean-reversion Expert Advisor. It carries no oscillators and no moving averages — every decision is driven by raw swing structure and the shape of a single candle. The strategy is built on the classic *measured-move* observation: markets travel in impulse legs between swing pivots, and once a fresh leg completes, price frequently overshoots a projected *extension* of that leg before snapping back toward equilibrium. Swing Extension Fade is designed to harvest that snap-back.

The EA continuously maps the market's fractal skeleton, confirming a strict local high or low only after `SwingLookback` bars have printed on each side of it. When an impulse leg is complete, it projects a measured extension beyond that leg in the direction of travel. It then waits — patiently and passively — for a later bar to pierce the extension *and* close as a rejection candle. Only when both conditions align does it fade the overshoot, placing an ATR-padded stop beyond the rejection extreme and a fixed ATR-multiple target.

Because the logic is symmetrical, it works both directions: a completed up-leg arms a **long** fade of a subsequent downside overshoot, while a completed down-leg arms a **short** fade of a subsequent upside overshoot. Each armed setup is traded at most once and expires automatically after `SetupValidityBars`.

Core idea in one sentence. Measure the last impulse leg, project where price is likely to over-extend, and fade the move only once price reaches that level and prints a candle that rejects it.

How It Works

The engine processes one decision per newly-closed bar. On each new bar it advances four stages: detect swings, expire stale setups, size risk with ATR, and — if flat — test the armed setups against the candle that just closed.

1. Swing detection (fractal pivots)

A bar is confirmed as a swing pivot only when it is a *strict* local high or low with `SwingLookback` bars on each side. Because confirmation needs the bars that come *after* the pivot, every pivot is recognised `SwingLookback` bars late — this is deliberate and removes look-ahead bias.

2. Leg measurement and arming

The most recent impulse leg is the distance between the two latest opposite pivots:

- **Up-leg** — prior swing low → new swing high. This arms a **long** fade.
- **Down-leg** — prior swing high → new swing low. This arms a **short** fade.

A measured extension is then projected beyond the leg in its direction of travel:

```
Long setup → down-extension = High - ExtensionFactor × (High - priorLow)
Short setup → up-extension   = Low  + ExtensionFactor × (priorHigh - Low)
```

With the default `ExtensionFactor = 1.27`, the target sits 27 % beyond the full leg length — a Fibonacci-style 1.27 projection. Raising it toward 1.618 demands a deeper overshoot before a fade is considered.

3. Trigger (rejection candle)

An armed setup only fires when a later closed bar both *pierces* the extension and *rejects* it. The rejection test inspects the closed candle's geometry:

- **Long fade** — the bar's low reaches the down-extension, the lower wick is at least `RejectWickRatio` of the bar range, the close finishes in the upper half of the range, and the lower wick is no smaller than the body.
- **Short fade** — the bar's high reaches the up-extension, the upper wick is at least `RejectWickRatio` of the range, the close finishes in the lower half of the range, and the upper wick is no smaller than the body.

A setup is also **invalidated** if price closes back through the reference pivot (above `RefHigh` for longs, below `RefLow` for shorts) — at that point there is no overshoot left to fade.

4. Entry, stop and target

When the trigger fires, a single trade is opened at market with a fixed lot size and an ATR-derived bracket sized from the just-closed bar's ATR:

```
LONG :  entry = Ask
        SL   = candleLow  - StopAtrMult × ATR
        TP   = entry      + TpAtrMult  × ATR

SHORT:  entry = Bid
        SL   = candleHigh + StopAtrMult × ATR
        TP   = entry      - TpAtrMult  × ATR
```

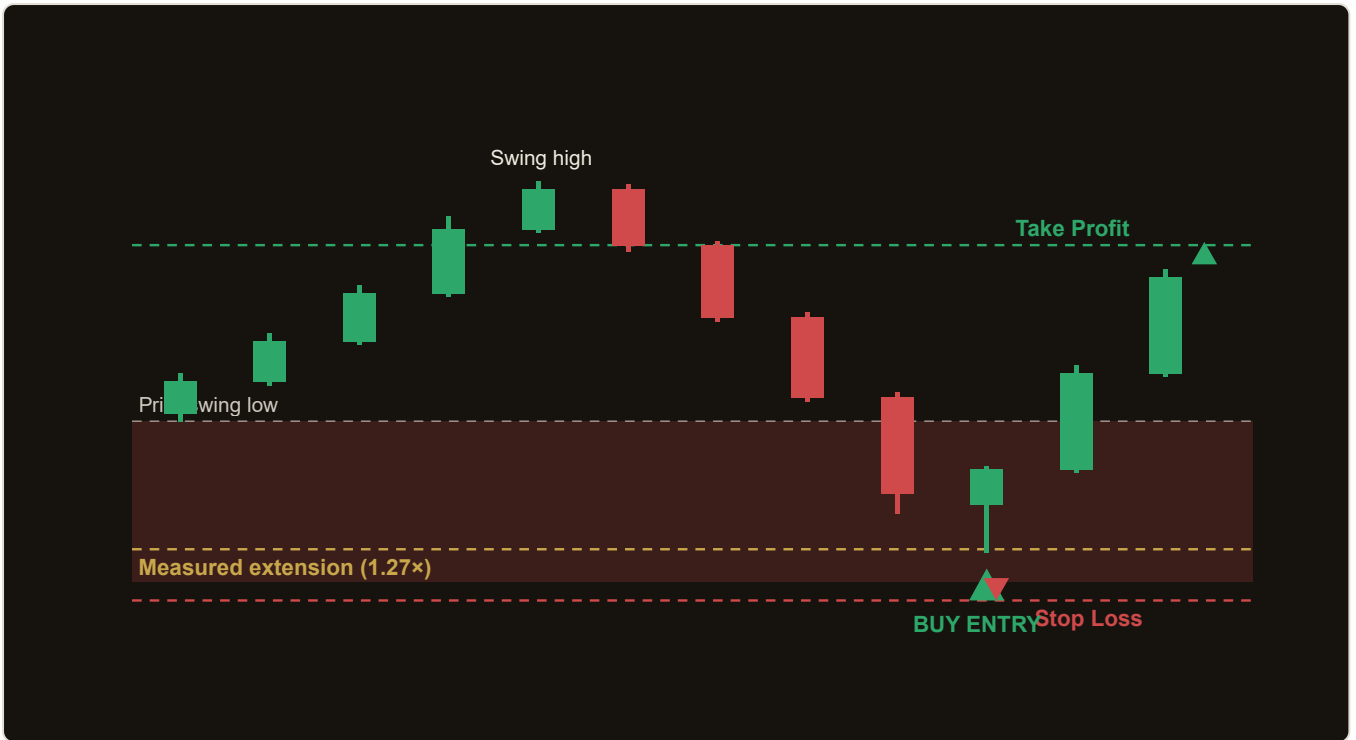
The stop sits beyond the rejection extreme, padded by $\text{StopAtrMult} \times \text{ATR}$; the target is $\text{TpAtrMult} \times \text{ATR}$ away. With the defaults ($\text{StopAtrMult} = 1.0$, $\text{TpAtrMult} = 2.5$) the bracket aims for roughly a 2.5 : 1 reward-to-risk on the ATR-padded distance. Orders are sanity-checked (entry the correct side of the stop, positive target) before being sent.

Position management

- **One position at a time** — the EA only evaluates triggers while flat for its magic number (8123).
- **Trade-once setups** — an armed setup disarms the moment it fires.
- **Automatic expiry** — any setup older than SetupValidityBars bars is discarded unfilled.
- **Exit handling** — positions are closed entirely by their attached stop-loss and take-profit; there is no trailing or break-even logic.

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.

Walk-through of the long fade above

Price rallies in a clean up-leg from the prior swing low to a confirmed swing high. The EA projects a 1.27 measured extension *below* the prior low. Price then reverses and over-extends straight through that low into the extension zone. The final red leg's last bar stabs the extension and closes back near its high, leaving a long lower wick — a bullish rejection. The EA buys at the Ask, parks the stop one ATR below the rejection low, and targets 2.5 ATR above. Price snaps back toward equilibrium and the take-profit is hit.

Parameters

Parameter	Default	Description
SwingLookback	3	Strict fractal lookback — bars required on each side of a pivot to confirm it as a swing high or low. Range 2–6, step 1. Higher values mean fewer, more significant pivots (and later confirmation).
ExtensionFactor	1.27	Measured-move extension factor applied to the impulse leg to project the overshoot target. Range 1.0–2.0, step 0.1. 1.27 and 1.618 are common Fibonacci projections; higher values require a deeper overshoot before a fade arms.
RejectWickRatio	0.5	Minimum rejection wick as a fraction of the candle's total range. Range 0.3–0.7, step 0.05. Higher values demand a more pronounced rejection wick before triggering.
AtrPeriod	14	Averaging period for the ATR used to size stops and targets. Range 7–30, step 1.
StopAtrMult	1.0	Stop-loss distance as a multiple of ATR, placed beyond the rejection extreme. Range 0.5–4.0, step 0.5.
TpAtrMult	2.5	Take-profit distance as a multiple of ATR from the entry price. Range 0.5–6.0, step 0.5.
SetupValidityBars	40	Number of bars an armed setup stays valid before it expires unfilled. Range 10–100, step 5.
Lots	0.10	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	8123	Magic number identifying this EA's orders and positions, so it manages only its own trades on the symbol.

Reward-to-risk. The effective reward-to-risk profile is governed by `TpAtrMult` relative to `StopAtrMult`. The defaults (2.5 vs 1.0) target roughly 2.5 : 1, but the true stop distance also includes the rejection-candle range, so realised risk is slightly wider than the ATR pad alone.

Recommended Settings

Swing Extension Fade is a swing-structure strategy and is best suited to timeframes where pivots are meaningful and noise is filtered out. As a starting point:

- **Timeframe:** H1 or H4. Lower timeframes generate more, lower-quality pivots; daily works for position-style fading.

- **Instruments:** liquid, mean-reverting markets — major FX pairs (EUR/USD, GBP/USD, USD/JPY) and major indices tend to respect measured-move overshoots well.
- **SwingLookback:** keep at 3 for H1; raise to 4–5 on H4/daily for more selective, structurally significant pivots.
- **ExtensionFactor:** 1.27 is the balanced default. Use 1.5–1.618 on volatile pairs to wait for deeper exhaustion.
- **Risk:** set `Lots` from your account size and per-trade risk — never use a fixed lot that risks more than a small percentage of equity on the ATR-padded stop.

Trend caution. As a counter-trend mean-reversion system, Swing Extension Fade can suffer in strong, persistent trends where overshoots keep extending instead of snapping back. Favour ranging or two-sided markets, and always validate any parameter set on out-of-sample data and a demo account before going live.

How to Install on MetaTrader 5

- 1 Copy `SwingExtensionFade.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

Tip. Before trading live, run the EA in the MT5 Strategy Tester across several years of history and a demo account. Because pivots confirm `SwingLookback` bars late, use "Every tick" or "Real ticks" modelling for the most faithful results.

Risk Warning

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