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Stair Step Trend Continuation

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend Continuation (Price Action)	H1 (single timeframe)	www.algobot.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

Stair Step Trend Continuation is a pure price-action, trend-following Expert Advisor. It uses **no indicators whatsoever** — every decision is derived from raw OHLC (open, high, low, close) data alone.

The strategy is built on a simple observation: healthy trends do not move in a straight line, they *stair-step*. An uptrend prints a sequence of **higher swing highs** *and* **higher swing lows**; a downtrend prints **lower swing highs** *and* **lower swing lows**. Each leg up (or down) is followed by a shallow counter-trend pause before the dominant trend resumes.

Inside a confirmed stair-step structure, the EA waits patiently for one of these shallow pullbacks, then re-enters in the direction of the trend the moment price resumes — buying the dip in an uptrend, or selling the rally in a downtrend. The protective stop is parked just beyond the pullback extreme (the trade's natural invalidation point), and the take-profit is placed at a fixed reward-to-risk multiple of that distance.

> **Core principle:** Trade *with* the trend, not against it. The EA never tries to pick tops or bottoms — it only acts once a trend has already proven itself through structure (higher highs & higher lows, or lower highs & lower lows) and is resuming after a brief rest.

How It Works

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1. Working on closed bars

The EA acts **once per newly-formed bar**. On each new bar it appends the bar that has just closed to an internal rolling history (capped at the most recent 600 bars) and re-evaluates the structure. No decision is ever based on the still-forming live bar, which keeps signals stable and repaintable-free.

2. Detecting swing structure (symmetric pivots)

Swing highs and lows are identified with a **symmetric pivot**. A closed bar qualifies as a **swing high** if its High strictly exceeds the High of `PivotLength` bars on *each* side; the mirror rule defines a **swing low** using Lows. Because confirmation requires `PivotLength` bars to the right, a pivot is only confirmed once it sits fully in the past — there is no look-ahead.

The EA tracks the two most recent confirmed swing highs (`_lastSwingHigh` , `_prevSwingHigh`) and the two most recent confirmed swing lows (`_lastSwingLow` , `_prevSwingLow`).

3. Confirming the trend

With both a previous and a latest swing on each side available, the trend is classified directly from structure:

- **Uptrend** — `lastSwingHigh > prevSwingHigh` *and* `lastSwingLow > prevSwingLow` (higher high *and* higher low).
- **Downtrend** — `lastSwingHigh < prevSwingHigh` *and* `lastSwingLow < prevSwingLow` (lower high *and* lower low).

If neither condition holds (a range or ambiguous structure), the EA stands aside and takes no trade.

4. Entry logic

Within a confirmed trend, the EA looks for a shallow counter-trend pullback that has just been overcome:

- **In an uptrend:** count the run of consecutive *lower closes* ending on the prior bar. If that run is at least `PullbackBars` long, *and* the bar that just closed closes back **above the prior bar's High**, a **Buy** is triggered at the Ask.
- **In a downtrend:** count the run of consecutive *higher closes* ending on the prior bar. If that run is at least `PullbackBars` long, *and* the bar that just closed closes back **below the prior bar's Low**, a **Sell** is triggered at the Bid.

Only **one position per magic number** is allowed at a time, so the EA never stacks or pyramids.

5. Stop-loss & take-profit

The stop is anchored to the **pullback extreme** — the natural point at which the continuation idea is wrong:

- **Buy:** stop = lowest Low across the pullback − `buffer`; risk = entry − stop; target = entry + risk × `RewardRatio`.
- **Sell:** stop = highest High across the pullback + `buffer`; risk = stop − entry; target = entry − risk × `RewardRatio`.

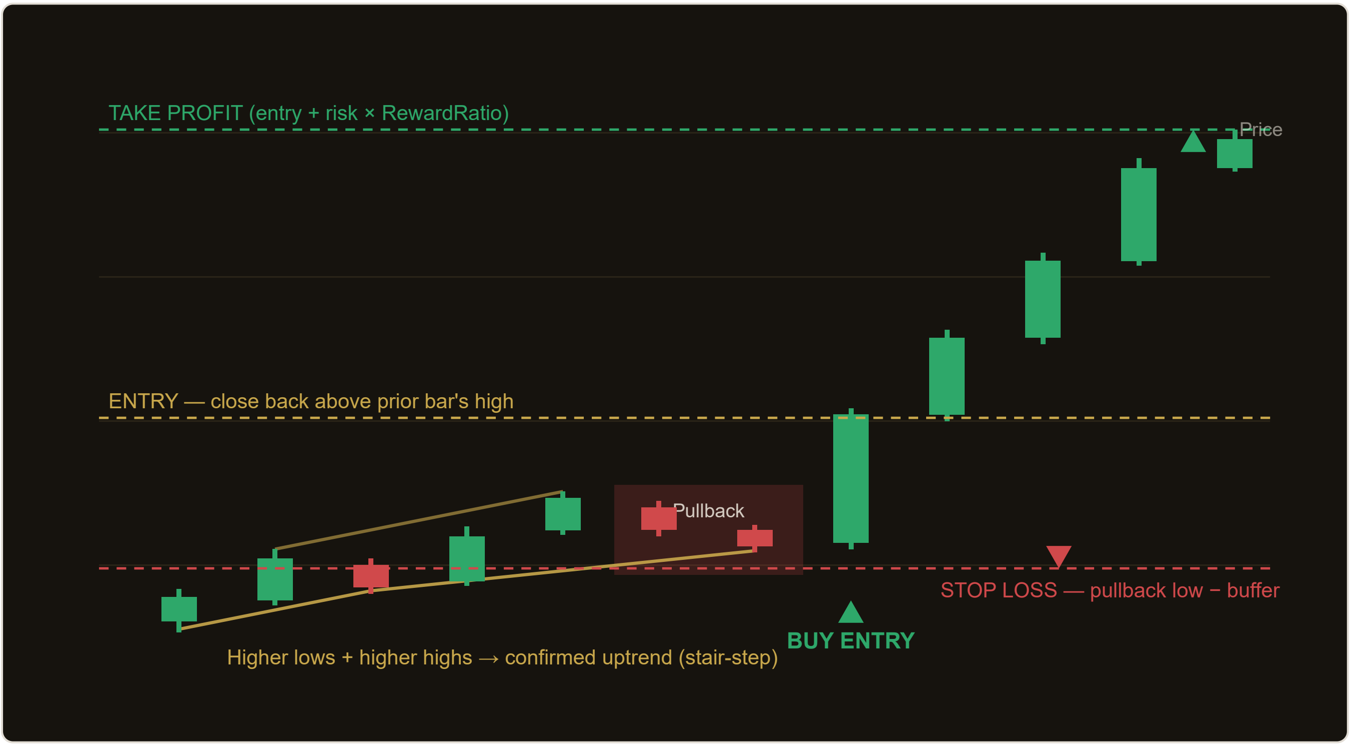
The `buffer` is computed as `StopBufferPct × (entry-bar High − entry-bar Low)` — a small cushion proportional to the entry bar's range, giving the stop a little breathing room beyond the exact pullback extreme. A trade is only sent when the computed risk is strictly positive.

Worked example — long continuation

Structure is a confirmed uptrend (higher high & higher low). Price pulls back for 2 consecutive lower closes into a low of `1.0840`. The next bar closes at `1.0875`, back above the prior bar's high. With an entry-bar range of `40 pips` and `StopBufferPct = 0.25`, the buffer is `10 pips`, so the stop sits at `1.0830`. Risk = `45 pips`; with `RewardRatio = 2.0` the target is placed `90 pips` above entry at `1.0965`.

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

The following inputs are exposed by the Expert Advisor. Defaults mirror the strategy's `DescribeParameters()` definition.

Parameter	Default	Description
PivotLength	`3`	Symmetric pivot half-width — number of bars required on each side of a candle to confirm it as a swing high/low. Larger values demand bigger, cleaner swings. Range 2–8, step 1.
PullbackBars	`2`	Minimum number of consecutive counter-trend closes (lower closes in an uptrend / higher closes in a downtrend) that must occur before a resumption entry is allowed. Range 1–5, step 1.
RewardRatio	`2.0`	Take-profit distance expressed as a multiple of the measured risk (entry-to-stop distance). 2.0 means the target is twice the risk. Range 1.0–4.0, step 0.5.
StopBufferPct	`0.25`	Extra stop cushion as a fraction of the entry bar's range (High − Low), placed beyond the pullback extreme. 0.25 = a quarter of the bar's range. Range 0.0–1.0, step 0.05.
Lots	`0.10`	Fixed order volume (lot size) used for every trade. Range 0.01–1.0, step 0.05.
Magic	`7301`	Magic number used to identify and manage this EA's positions. Ensures the one-position-at-a-time rule applies only to trades opened by this EA.

> **Tip:** `PivotLength` and `PullbackBars` control how selective the EA is. Higher `PivotLength` filters for larger, more reliable swings (fewer trades); higher `PullbackBars` waits for deeper retracements before re-entering. Tune them together to match the volatility of your chosen symbol and timeframe.

Recommended Settings

Because the strategy is built entirely on swing structure, it performs best on instruments that trend cleanly and on timeframes where swings are well-defined rather than noisy.

- **Symbols:** Major FX pairs (e.g. EUR/USD, GBP/USD, USD/JPY) and trend-prone instruments. Avoid choppy, low-volatility, range-bound markets.
- **Timeframe:** H1 is a sensible default. H4 works well for slower, cleaner structure; M15 can be used but expect more noise and false pivots.
- **PivotLength:** 3 for H1 as a starting point; raise to 4–5 on lower timeframes to filter noise.
- **PullbackBars:** 2 keeps entries responsive; raise to 3 if you prefer deeper, higher-conviction pullbacks.

- **RewardRatio:** 2.0 is a balanced default. The pure structure stop tends to be tight, so a 2:1 (or higher) target keeps expectancy positive even with a moderate win rate.
- **StopBufferPct:** 0.25 suits most symbols; widen toward 0.4–0.5 on more volatile instruments to avoid being wicked out.
- **Lots:** Size according to your account and risk tolerance. Note that volume is fixed, not risk-based — adjust `Lots` so the per-trade monetary risk stays within your plan.

> **Note:** Always validate any parameter set with a backtest and a period of forward (demo) testing on your specific broker and symbol before committing real capital. Spread, swap, and execution conditions vary between brokers and materially affect a structure-based system with tight stops.

How to Install on MetaTrader 5

1. Copy `StairStepTrendContinuation.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

> **Single timeframe:** This EA operates on the timeframe of the chart it is attached to. Attach it to a chart set to your intended trading timeframe (e.g. H1) — there is no multi-timeframe configuration to manage.

Risk Warning

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