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Maximize Your Profits

Winsorized Momentum Trend

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend Following (Robust Momentum)	M15 – H1	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

Winsorized Momentum Trend is a trend-following momentum system built on robust statistics. Its defining feature is *how* it measures the trend. A raw momentum reading (`Close[0] - Close[k]`) or an EMA slope can be dominated — and falsified — by a single violent bar: a news wick, a stop-run, or a liquidity spike. This EA instead measures a **winsorized drift** that is deliberately blind to those outliers, so the signal reflects persistent directional pressure rather than one freak candle that usually snaps back.

The core idea rests on a simple observation about market structure: *genuine trends are built from many ordinary bars leaning the same way, whereas noise and traps are a few outsized bars that revert.* By clipping the statistical tails of the return distribution, the strategy keeps the former and mutes the latter — the drift only flips direction on a true regime change, not on a single dramatic candle.

Rather than chasing extended moves, the EA waits for a **pullback**: once a robust trend is confirmed, it only enters when price dips to (or pops to) a fast EMA and then reclaims it, buying dips in uptrends and selling rips in downtrends. It trades fully symmetrically on liquid, trending instruments such as EURUSD, GBPUSD, and XAUUSD. The timeframe is never hardcoded — every calculation uses the chart's own timeframe — but the strategy is designed with M15–H1 in mind.

> **What makes it different:** The trend gauge is a *MAD-winsorized* sum of returns, normalized by ATR into a scale-free "clean drift in ATRs." A 6-sigma spike counts no more than a `k`-sigma move — no bar is deleted, but no single bar can dominate. This makes the direction signal resistant to the exact events (news wicks, stop-runs) that most raw-momentum systems chase straight into a reversal.

How It Works

Building the clean (winsorized) drift

On each newly-closed bar, the EA recomputes its trend gauge from scratch in four steps (all in price units):

1. **Collect returns.** Take the last `MomentumPeriod` bar-to-bar returns, `r_i = Close[i] − Close[i−1]`.
2. **Find the robust center and scale.** Compute the **median** `m` of the returns and their **Median Absolute Deviation (MAD)**. Scaling MAD by `1.4826` makes it a breakdown-resistant stand-in for the standard deviation — but, unlike the std, it is not inflated by the very spikes we want to ignore.
3. **Winsorize.** Clip every return into the band `[m − k·MADs, m + k·MADs]`, where `k = WinsorK`. Returns more extreme than `k` robust-sigmas are pulled back to the edge of the band rather than dropped — each bar still votes, but a spike counts no more than a `k`-sigma move.
4. **Sum and normalize.** Add the winsorized returns to get the robust net displacement over the window, then divide by ATR to get a scale-free **clean drift in ATRs** (`driftAtr`), comparable across symbols and timeframes.

> **Winsorization at a glance**
>
> Suppose the drift window's robust band is `[−0.4·ATR, +0.4·ATR]` per bar and a news bar prints a `+3.0·ATR` return. Winsorization clips that return down to `+0.4·ATR` before summing. The trend estimate still registers a positive bar, but the freak candle no longer single-handedly manufactures a "trend" that isn't there.

Entry logic — pullback reclaim

Entries require both a confirmed robust trend *and* a fresh pullback-and-reclaim of the fast EMA. The EA never enters while a position for its magic number is already open.

- **Long:** clean drift `≥ +TrendThreshold` ATRs (robust uptrend) *AND* price dipped to the fast EMA on the previous bar (`prevClose ≤ prevEMA`) and now **reclaims** it (`close > EMA`). Buy the dip as the trend resumes.
- **Short:** clean drift `≤ −TrendThreshold` ATRs (robust downtrend) *AND* price popped to the fast EMA on the previous bar (`prevClose ≥ prevEMA`) and now **loses** it (`close < EMA`). Sell the rip.

Exit logic — robust regime flip

A live trade is closed the moment the clean drift crosses back through zero against it — the robust regime itself has turned:

- A **long** is closed when `driftAtr ≤ 0`.
- A **short** is closed when `driftAtr ≥ 0`.

Because the drift is winsorized, this exit does not fire on a single spike against the position — it waits for the persistent pressure to genuinely flip.

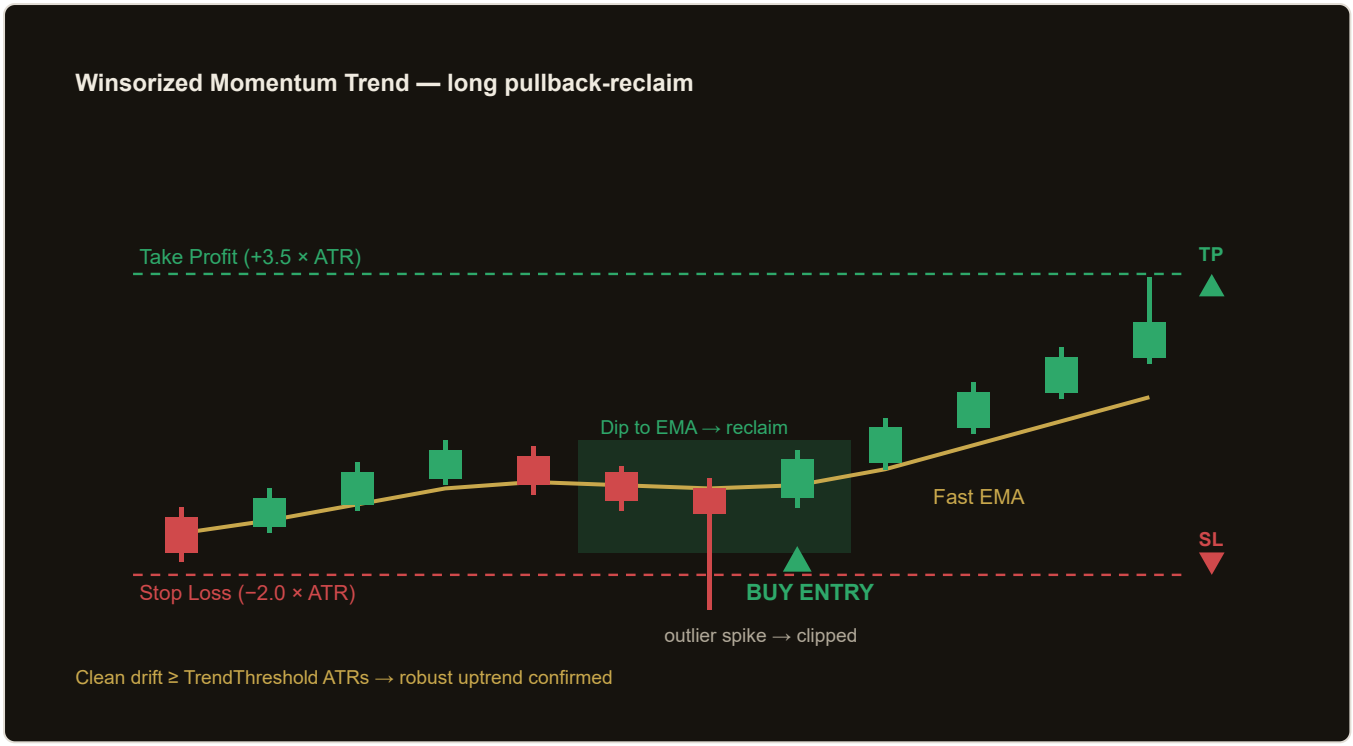
Stop loss, take profit & filters

- **ATR stop loss** at `AtrMultSl × ATR` caps the loss if price reverses hard *before* the drift flips.
- **ATR take profit** at a wider `AtrMultTp × ATR` lets a clean trend leg run (default risk:reward is `2.0 : 3.5`).
- **Spread gate:** if `MaxSpreadPoints > 0`, entries are skipped whenever the current spread (in points) exceeds it, blocking costly fills.
- **One position per magic:** only a single trade is open at a time for the EA's magic number.

> **Note:** The strategy acts once per *closed* bar — the still-forming bar (shift 0) is never traded on. Both the C# engine version and the MQL5 version compute the identical return window over closed bars, so live and backtest behaviour match.

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

Parameter	Default	Description
MomentumPeriod	`20`	Number of bar-to-bar returns that define the drift window. Range 8–60, step 2.
WinsorK	`2.0`	Half-width of the winsorization band in robust sigmas (MAD × 1.4826). Lower values apply harsher clipping. Range 1.0–4.0, step 0.25.
TrendThreshold	`0.75`	Minimum absolute clean drift (in ATRs) for the window to count as a real trend. Range 0.20–2.50, step 0.05.
FastEmaPeriod	`10`	Fast EMA that the pullback must reclaim to trigger an entry. Range 3–30, step 1.
AtrPeriod	`14`	ATR period used to scale the drift and size the stop / target. Range 5–40, step 1.
AtrMultSl	`2.0`	Protective stop distance as a multiple of ATR. Range 0.5–6.0, step 0.1.
AtrMultTp	`3.5`	Target distance as a multiple of ATR (lets a clean leg run). Range 0.5–10.0, step 0.1.
MaxSpreadPoints	`30`	Skip entries when the spread (in points) exceeds this value. Set 0 to disable the filter. Range 0–200, step 5.
Lots	`0.10`	Trade volume in lots. Range 0.01–1.00, step 0.05.
Magic	`5163`	Magic number identifying this EA's positions. Range 0–9,999,999, step 1.

Recommended Settings

The defaults are tuned for liquid, trending FX pairs and metals on intraday timeframes. Use the following as starting points and always validate on your own broker's data before going live.

INSTRUMENTS & TIMEFRAME

- **Symbols:** EURUSD, GBPUSD, XAUUSD (liquid, trending instruments where robust drift is most meaningful).
- **Timeframe:** M15 to H1. The EA reads the chart's own timeframe, so simply attach it to the timeframe you wish to trade.

TUNING GUIDANCE

- **WinsorK** controls how aggressively spikes are clipped. Lower it (toward 1.0) on very spiky instruments (metals, news-sensitive pairs) to further mute outliers; raise it (toward 4.0) to let more of the raw move through on smoother pairs.
- **TrendThreshold** is the trade-frequency dial. Higher values demand a stronger, cleaner trend before entering (fewer, higher-conviction trades); lower values trade more often.
- **MomentumPeriod** sets the drift horizon. Shorter windows react faster to regime changes; longer windows are steadier but slower to flip.
- **AtrMultSl / AtrMultTp** define the risk:reward profile. The default 2.0 / 3.5 favours letting winners run; tighten the target for a higher hit rate.

> **Tip:** Because the drift is normalized by ATR, the same parameter set is reasonably transferable across symbols and timeframes. When moving to a new instrument, re-check `MaxSpreadPoints` first — a filter tuned for EURUSD may block most fills on a wider-spread symbol.

> **Optimization caution:** Over-optimizing `WinsorK` and `TrendThreshold` to a single historical period risks curve-fitting. Prefer parameter regions that stay profitable across walk-forward windows over a single "best" combination.

How to Install on MetaTrader 5

1. Copy `WinsorizedMomentumTrend.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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