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Atr Scaled Momentum Shift

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Momentum / Trend Continuation	M15–H1 (configurable)	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

Atr Scaled Momentum Shift is a volatility-normalized momentum system. Raw rate-of-change is a poor cross-market signal because a 30-pip move means very different things in a quiet range than in a fast trend. This strategy divides the N-bar price change by the current ATR, producing **"momentum in ATR units"** — how many average ranges price has travelled over the lookback window.

A directional trade is armed only when this normalized momentum *thrusts* through a threshold **and** price agrees with the EMA trend filter. Because the signal is expressed in ATR units rather than raw price, the same numeric threshold stays meaningful across FX majors, gold and indices, and across quiet versus volatile regimes.

The result is a trend-following momentum continuation model that trades a single symbol and timeframe (designed with M15–H1 majors and XAUUSD in mind, though the timeframe is never hardcoded — it uses whatever chart it is attached to). Risk is managed entirely in ATR terms: an ATR stop-loss and take-profit fix the reward-to-risk ratio, while an ATR trailing stop ratchets only in the favorable direction.

> **Non-repainting by design.** Every trading decision uses only *closed* bars (shift ≥ 1). The currently-forming bar is used solely to detect that a new bar has opened, so signals never repaint or shift after the fact.

How It Works

The core signal: normalized momentum

On each newly-closed bar the EA computes momentum normalized by volatility:

```
normMom = ( Close[now] − Close[now − MomPeriod] ) / ATR(AtrPeriod)
```

This expresses the net move over the lookback as a multiple of the average range. A reading of `+1.0` means price advanced roughly one ATR over the last `MomPeriod` bars; `−2.0` means it fell about two ATRs.

Entry logic

A trade is only armed when normalized momentum *crosses* its threshold (a thrust), not merely while it sits beyond it. The crossing is evaluated against the previous closed bar's reading, and the higher-level EMA trend filter must agree:

- **Long entry** — `normMom` crosses **up** through `+MomThreshold` while `Close > TrendEma`.
- **Short entry** — `normMom` crosses **down** through `−MomThreshold` while `Close < TrendEma`.

Requiring both a momentum thrust and trend agreement filters out counter-trend spikes and keeps entries aligned with the dominant direction.

Exit logic & risk management

Every position is protected the moment it opens, and all distances are expressed in ATR multiples so they adapt to current volatility:

- **Stop-loss** — placed `SlAtrMult × ATR` from entry.
- **Take-profit** — placed `TpAtrMult × ATR` from entry, fixing the reward-to-risk ratio (default 3.0 / 1.8 ≈ 1.67R).
- **ATR trailing stop** — once price has moved `TrailStartMult × ATR` in your favor, the stop trails at `TrailAtrMult × ATR` behind price. It only ever ratchets in the favorable direction — it never loosens.

Trade filters

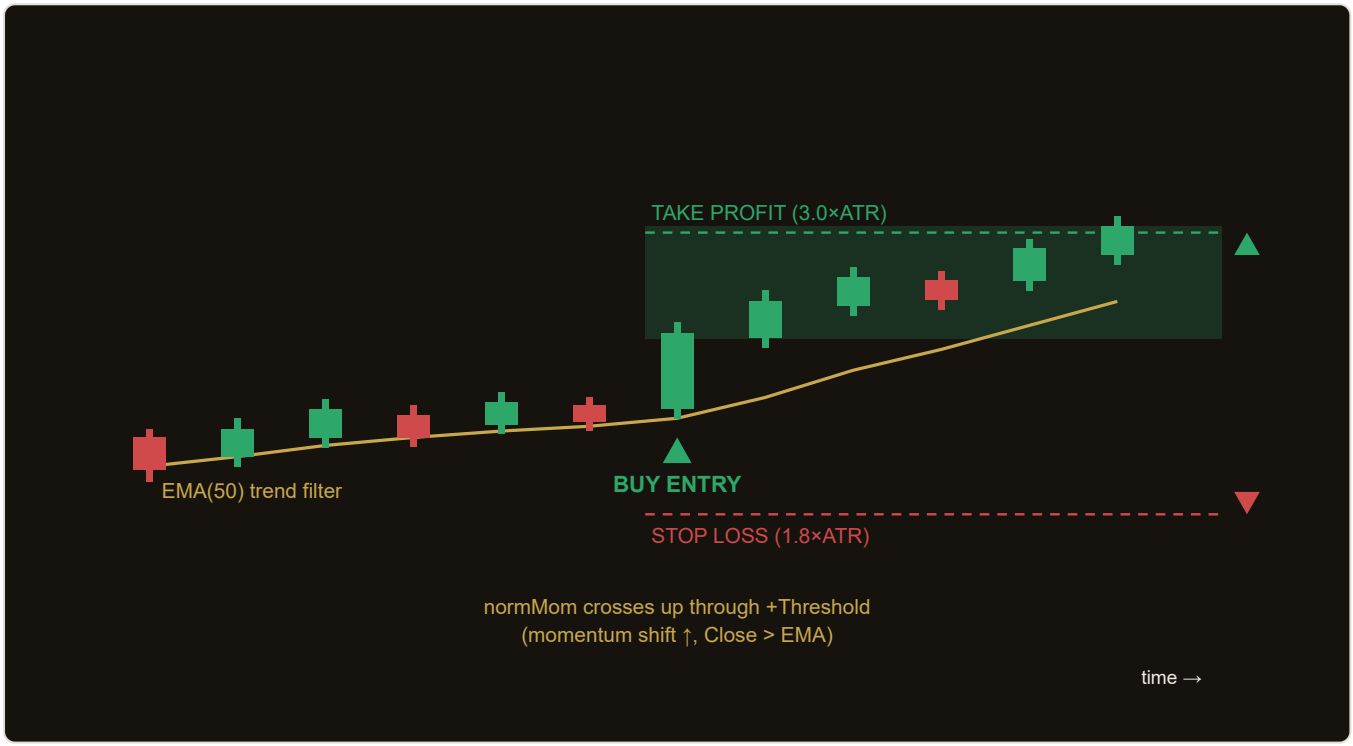
- **One position at a time** — the EA never stacks trades on the same symbol / magic number.
- **Cooldown** — `CooldownBars` must elapse after an entry before another is allowed, avoiding churn.
- **Dead-market ATR floor** — if `MinAtrPoints > 0`, entries are skipped when ATR falls below that floor, keeping the EA out of illiquid, flat conditions.
- **Optional equity compounding** — if `RiskPercent > 0`, base lot size is gently scaled up as account equity grows.

Worked example (long)

Suppose ATR = 20 pips, `MomThreshold = 1.0`, and over the last `MomPeriod` bars price rose 24 pips → `normMom = 24 / 20 = 1.2`. The prior bar read `0.8`, so momentum just crossed up through `+1.0`. Price is above the EMA, cooldown has elapsed, and no position is open. The EA buys, sets the stop 1.8×ATR (36 pips) below entry and the target 3.0×ATR (60 pips) above. After price advances 1.2×ATR (24 pips), the trailing stop begins to ratchet up 1.5×ATR behind price.

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
TrendPeriod	`50`	EMA trend-filter period. Longs require Close above this EMA, shorts below. Range 20–200, step 10.
AtrPeriod	`14`	ATR period used to normalize momentum and to size all stop/target/trail distances. Range 7–30, step 1.
MomPeriod	`10`	Momentum lookback in bars — the net price change measured over this window. Range 3–40, step 1.
MomThreshold	`1.0`	Momentum thrust threshold in ATR units. Momentum must cross ±this value to arm a trade. Range 0.3–3.0, step 0.1.
SlAtrMult	`1.8`	Stop-loss distance as a multiple of ATR from entry. Range 0.8–4.0, step 0.1.
TpAtrMult	`3.0`	Take-profit distance as a multiple of ATR from entry (sets the reward:risk ratio). Range 1.0–6.0, step 0.1.
TrailStartMult	`1.2`	Profit (in ATRs) that must be reached before the trailing stop activates. Range 0.3–4.0, step 0.1.
TrailAtrMult	`1.5`	Trailing-stop distance behind price, as a multiple of ATR. Range 0.5–4.0, step 0.1.
CooldownBars	`2`	Number of bars to wait after an entry before another is allowed, reducing churn. Range 0–20, step 1.
Lots	`0.10`	Base trade volume in lots. Range 0.01–2.0, step 0.01.
RiskPercent	`0.0`	Equity compounding factor. 0 = fixed lots; >0 gently scales volume as equity grows. Range 0.0–5.0, step 0.5.
MinAtrPoints	`0.0`	Dead-market ATR floor. Entries are skipped when ATR is below this value. 0 = disabled. Range 0.0–50.0, step 0.5.

Magic number. The EA also exposes a `Magic` input (default `20260705`) used to tag and manage only its own orders. Give each instance a unique magic number if you run several EAs on the same account.

Recommended Settings

The defaults are a balanced starting point for M15–H1 charts on trending instruments. Use these as a baseline and always validate on your own broker's data before going live.

INSTRUMENTS & TIMEFRAME

- **Symbols** — FX majors (EURUSD, GBPUSD, USDJPY), XAUUSD (gold), and major indices. The ATR-normalized signal keeps the same threshold meaningful across all of them.
- **Timeframe** — M15 to H1. The EA uses whatever timeframe the chart is set to; there is no hardcoded period.

TUNING NOTES

- **Fewer, cleaner signals** — raise `MomThreshold` (e.g. 1.3–1.8) and/or `CooldownBars`.
- **More responsiveness** — lower `MomThreshold` or `MomPeriod`, but expect more noise.
- **Wider trend context** — increase `TrendPeriod` to trade only with the larger trend.
- **Choppy markets** — set a non-zero `MinAtrPoints` to sit out low-volatility conditions.

> **Tip — optimize as a set.** Because momentum, stop, target and trail distances all scale with ATR, tune `AtrPeriod`, `MomThreshold` and the ATR multipliers together rather than one in isolation. Run the MT5 Strategy Tester across a full range of market regimes before deploying.

How to Install on MetaTrader 5

1. Copy `AtrScaledMomentumShift.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

> **Before live trading.** Run the EA on a demo account first and confirm that automated trading is permitted for your account and symbol. Verify the ATR-based stop distances are wider than your broker's minimum stop level for the instrument you trade.

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.