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Maximize Your Profits

Momentum Gated Trend Pullback

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend-Following Pullback	H1 / H4	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

Momentum Gated Trend Pullback is a risk-normalised, trend-following pullback system. Rather than chasing breakouts, it waits for a healthy trend to take a breather and then re-enters in the trend's direction as momentum resumes — buying dips inside uptrends and selling rallies inside downtrends.

The market's dominant direction is established by a fast/slow EMA stack whose slow line must also be sloping the right way, so the EA only trades genuine trends rather than flat, choppy ranges. Once a trend is confirmed, the EA watches the RSI momentum oscillator: it waits for momentum to *reset* against the trend (RSI dipping into a pullback zone) and then *resume* in the trend's direction (RSI crossing back through the gate). This produces high-quality, tightly-stopped entries.

Every trade is sized from account risk and the ATR-scaled stop distance, so each position risks a constant fraction of equity — the core mechanism for keeping drawdown bounded. A trend-flip exit protects open trades if the EMA stack rolls over before the stop or target is reached.

How It Works

1. Trend Filter (the EMA stack)

Two exponential moving averages define the regime — a fast EMA (default 20) and a slow EMA (default 50). To confirm a *real* trend rather than a flat market, the slow EMA must also be sloping in the trend's direction, measured over the last `SlopeLookback` closed bars.

- **Uptrend** — fast EMA above slow EMA, slow EMA *rising*, and the last close above the slow EMA.
- **Downtrend** — fast EMA below slow EMA, slow EMA *falling*, and the last close below the slow EMA.

If neither condition holds, the market is treated as directionless and no new entries are taken.

2. Momentum Gate (the RSI pullback)

Inside a confirmed trend, the EA uses the RSI (default period 14) as a momentum gate driven by the `PullbackRsi` setting (default 45):

- **Long dip zone** — the lower gate equals `PullbackRsi` (e.g. 45). A long triggers only when RSI first dips *below* the gate on a prior bar and then crosses back *up* through it (`prevRsi < 45` and `rsi ≥ 45`).
- **Short rally zone** — the upper gate is the mirror value, `100 − PullbackRsi` (e.g. 55). A short triggers only when RSI first pushes *above* the gate and then crosses back *down* through it (`prevRsi > 55` and `rsi ≤ 55`).

> **Why gate on momentum?** The dip-then-recross requirement means the EA never buys while price is still falling — it waits for the pullback to actually exhaust and momentum to turn back with the trend. This filters out weak, still-falling entries and gives the ATR stop the tightest, highest-quality placement.

3. Entry, Stop Loss & Take Profit

When a signal fires, stops and targets are derived from the current ATR (default period 14), so risk automatically scales with market volatility:

- **Long entry** at the Ask. Stop loss = `entry − AtrSlMult × ATR`; take profit = `entry + AtrTpMult × ATR`.
- **Short entry** at the Bid. Stop loss = `entry + AtrSlMult × ATR`; take profit = `entry − AtrTpMult × ATR`.

With the defaults (`AtrSlMult = 2.0`, `AtrTpMult = 3.0`) each trade carries a built-in **1.5 : 1 reward-to-risk ratio**.

4. Exits & Trade Management

An open position is closed in one of three ways:

- **Take profit** — price reaches the ATR-scaled target.

- **Stop loss** — price reaches the ATR-scaled protective stop.
- **Trend-flip exit** — if the EMA stack rolls over against the trade (fast EMA crosses to the wrong side of the slow EMA) before either level is hit, the position is closed immediately to protect capital.

The EA holds only **one position per magic number at a time**, and pending orders block new signals, so exposure stays controlled.

5. Risk-Based Position Sizing

Position size is not fixed — it is calculated so that the distance to the stop always represents the same fraction of equity:

```
riskMoney   = Equity × (RiskPercent / 100)
moneyPerLot = stopDistance × ContractSize
lots        = riskMoney / moneyPerLot     (rounded, clamped to [0.01, MaxLots])
```

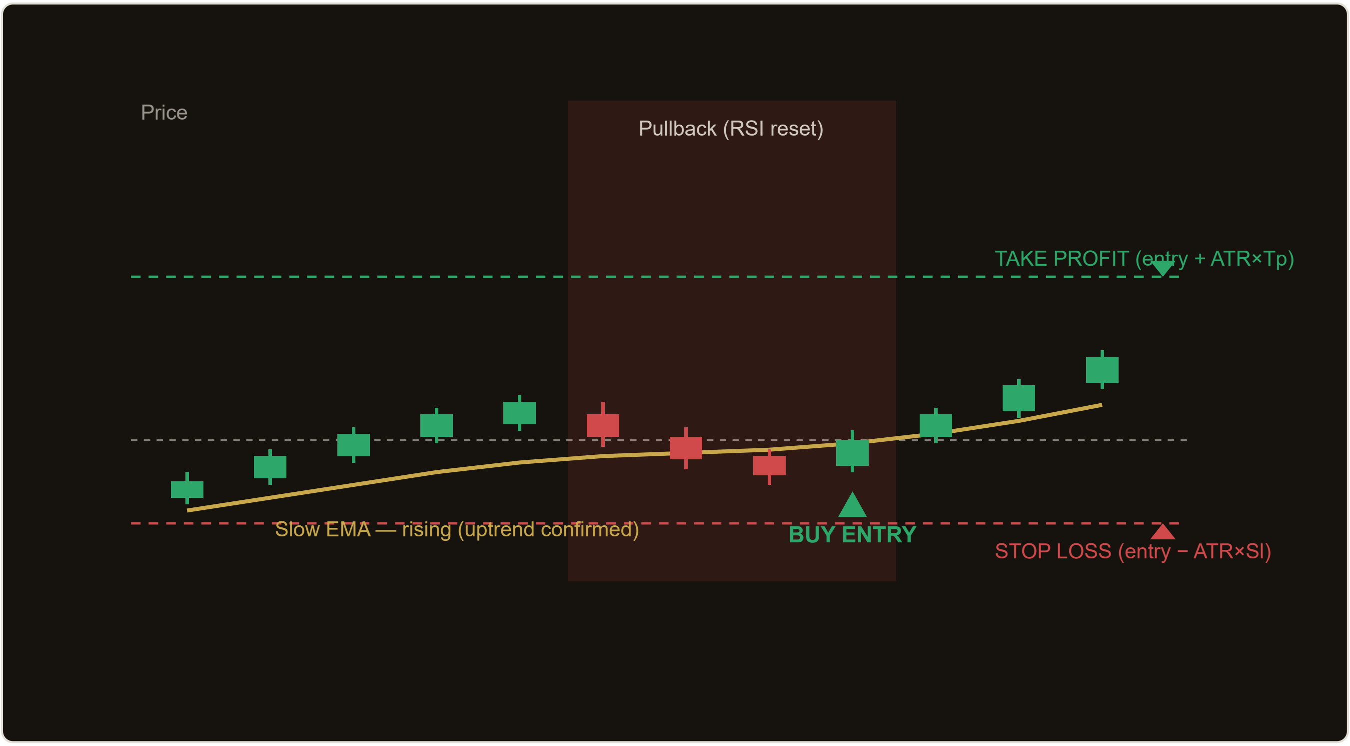
The result is rounded to two decimals, floored at the minimum lot, capped at `MaxLots`, and finally snapped to the broker's volume step so the order can actually be sent.

6. Bar-Close Execution

All logic runs **once per completed bar** using closed data only. Indicators and signals are evaluated on the just-closed bar (with the previous RSI taken from the bar before it), which avoids intrabar repainting and keeps live behaviour consistent with backtests.

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

These inputs are exposed for optimisation and tuning. Defaults are shown alongside each parameter's tested range.

Parameter	Default	Description
FastEma	`20`	Fast EMA period defining the near-term trend line. Range 8–40, step 2.
SlowEma	`50`	Slow EMA period defining the dominant trend. Range 30–120, step 5. (Auto-adjusted to at least `FastEma + 5` if set lower.)
RsiPeriod	`14`	Lookback period for the RSI momentum oscillator. Range 7–21, step 1.
PullbackRsi	`45`	The RSI pullback gate. Longs re-enter as RSI crosses back up through this level; shorts use its mirror, `100 − PullbackRsi`. Range 30–50, step 1.
SlopeLookback	`10`	Number of closed bars used to measure the slow-EMA slope (rising vs. falling). Range 3–25, step 1.
AtrPeriod	`14`	ATR period used to scale stop-loss and take-profit distances to volatility. Range 7–28, step 1.
AtrSlMult	`2.0`	Stop-loss distance as a multiple of ATR. Range 1.0–4.0, step 0.5.
AtrTpMult	`3.0`	Take-profit distance as a multiple of ATR. Range 1.0–6.0, step 0.5.
RiskPercent	`1.0`	Fraction of account equity risked per trade, in percent. Drives position sizing. Range 0.25–3.0, step 0.25.

CONFIGURATION CONSTANTS

These inputs describe the instrument and account limits rather than the trading edge, and are normally left at their defaults.

Input	Default	Description
Magic	`730114`	Magic number identifying this EA's positions and pending orders.
ContractSize	`100000.0`	Money per lot per price unit — used by the risk-sizing calculation.
MaxLots	`5.0`	Hard upper cap on position size, applied after risk sizing.

Recommended Settings

The strategy is designed for liquid, trending instruments on intraday-to-swing timeframes.

- **Symbols:** major FX pairs (e.g. EUR/USD, GBP/USD, USD/JPY) or other liquid, trend-prone markets.
- **Timeframe:** H1 as a starting point; H4 for a slower, higher-conviction variant. The `ContractSize` default (100,000) assumes a standard FX contract.

- **Risk:** begin with `RiskPercent = 1.0` or lower. Because size scales with the stop distance, wider ATR stops automatically reduce lot size — do not override this with a fixed lot.
- **Trend quality:** raise `SlopeLookback` to demand a steadier trend (fewer, cleaner trades); lower it to react faster in shorter swings.

Example — position sizing in practice

Account equity $10,000, `RiskPercent = 1.0` → risk budget $100. With ATR = 0.0010 and `AtrSlMult = 2.0`, the stop distance is 0.0020. `moneyPerLot = 0.0020 × 100,000 = $200`, so `lots = 100 / 200 = 0.50`. The EA opens 0.50 lots (subject to the broker's volume step and the `MaxLots` cap).

Tip: Always validate any parameter set with the MT5 Strategy Tester on your own broker's data before trading live. Optimise on one date range and confirm the result on a separate, unseen range to guard against curve-fitting.

How to Install on MetaTrader 5

1. Copy `MomentumGatedTrendPullback.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

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.