

Ema Gradient Pullback

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend-Following (Pullback Continuation)	M15 – H4	www.algotbot.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

Ema Gradient Pullback is a trend-following, pullback-continuation Expert Advisor. It trades *only* in the direction of an already-established trend and enters *only* after a shallow pullback has resolved back in the trend's favour with genuine momentum. In plain terms, it aims to buy dips in uptrends and sell rallies in downtrends.

Pullback systems are notoriously vulnerable to two failure modes: taking a "dip-buy" while the market is actually ranging or chopping, and mistaking the early stage of a full reversal for a routine pullback. Ema Gradient Pullback is built around filtering out both. A three-EMA "gradient stack" gate ensures the strategy is silent unless a clean, directional trend exists, and a strict pullback → reclaim → momentum trigger requires the market to prove the pullback is decisively over before any order is sent.

Every calculation runs on the single timeframe of the chart the EA is attached to — no timeframe is hardcoded — so it can be applied to whatever chart you choose. It was designed with trending FX, metal, and index markets on the M15–H4 range in mind.

Core idea: A stacked, sloping EMA ribbon only exists in a directional market. By requiring that ribbon before it looks for an entry, the strategy is naturally quiet during the ranges where dip-buying tends to bleed money.

How It Works

1. The Trend Gate — Three-EMA "Gradient Stack"

Three exponential moving averages — a Fast, a Mid, and a Slow EMA — must be cleanly **stacked** in order, and the Slow EMA must be sloping the correct way over the `SlopeLookback` window. This is the regime filter that decides whether the market is trending at all, and in which direction:

- **Uptrend:** `FastEma > MidEma > SlowEma` and the Slow EMA is rising (higher now than `SlopeLookback` bars ago).
- **Downtrend:** `FastEma < MidEma < SlowEma` and the Slow EMA is falling.

If the ribbon is tangled or flat, no trade can be considered — the gate is silent.

2. The Entry Trigger — Pullback → Reclaim → Momentum

All signals are evaluated on the **just-closed bar** (never on the still-forming bar), so entries are decided on confirmed data. A **long** entry requires *all* of the following to be true at once:

1. A **bullish gradient stack** is in place (trend gate above).
2. **Pullback:** the *previous* closed bar dipped — it closed *below* its Fast EMA (a genuine dip into the ribbon, not a runaway bar).
3. **Reclaim:** the *current* closed bar closed back *above* the Fast EMA.
4. **Momentum:** that reclaim bar also closed *above the previous bar's high* — the pullback is decisively over, not merely drifting.
5. **Healthy RSI:** RSI is at or above `RsiLongFloor` and at or below the fixed upper guard of **78** — skipping both over-extended, exhausted pushes and momentum that has already rolled over.

A **short** entry is the exact mirror: a bearish stack, the prior bar closed above the Fast EMA, the current bar closed below the Fast EMA *and* below the prior bar's low, with RSI at or below the mirror ceiling (`100 - RsiLongFloor`) and at or above the fixed lower guard of **22**.

Worked example — long setup on EUR/USD (M30)

The 8/21/50 EMAs are stacked bullishly and the 50-EMA is rising. Price pulls back and the last bar closes just under the Fast EMA. On the next bar, price snaps back and closes above the Fast EMA *and* above the prior bar's high. RSI reads 58 — healthy, not overbought. All five conditions are met, so a long order is sent at the current Ask with an ATR-based stop and target.

3. Risk & Trade Management

Risk is objective and entirely ATR-based. When an entry fires:

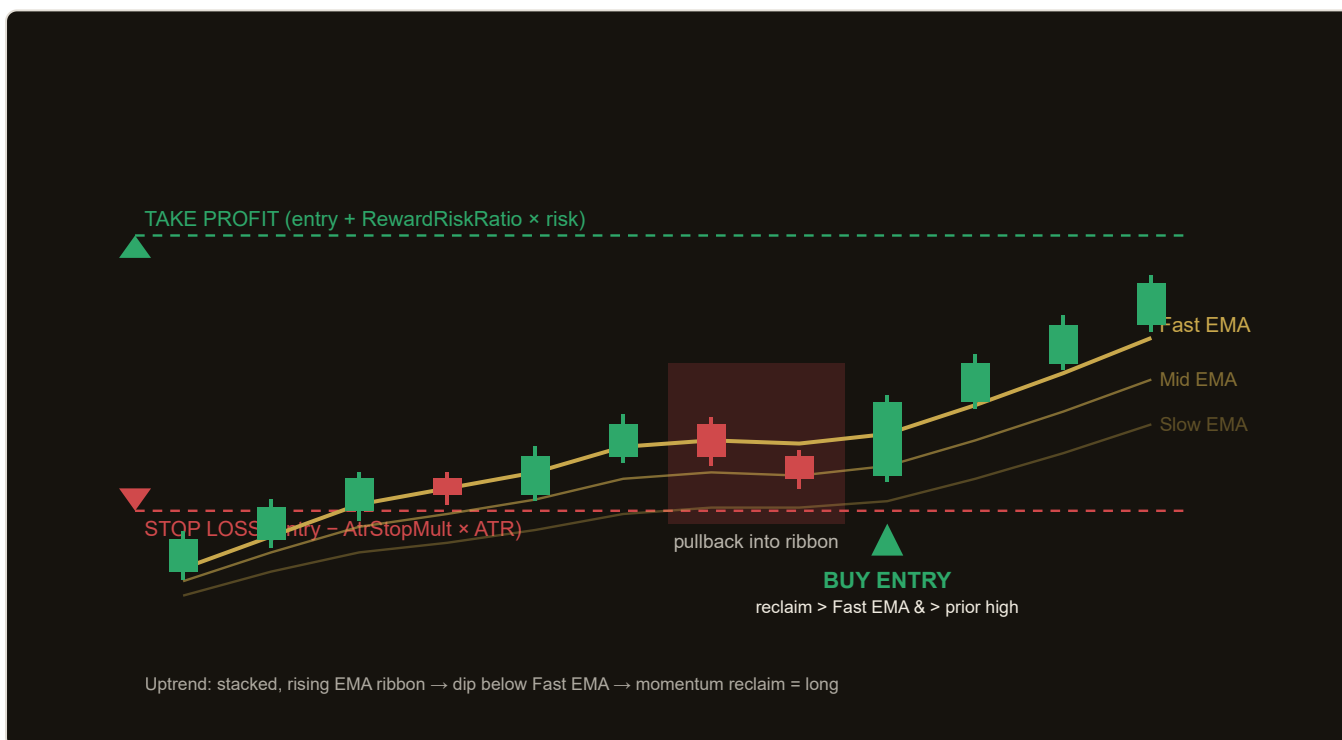
- **Stop loss:** placed `AtrStopMult × ATR` away from entry (below for longs, above for shorts).

- **Take profit:** set at $\text{RewardRiskRatio} \times \text{risk}$, where *risk* is the entry-to-stop distance.
- **Break-even lock:** once price runs $\text{BreakEvenAtrMult} \times \text{ATR}$ in your favour, the stop is pulled up (or down) to the entry price, removing the trade's risk.
- **ATR trailing stop:** the stop then trails $\text{TrailAtrMult} \times \text{ATR}$ behind price, only ever ratcheting in the profitable direction — letting winners run while locking in gains.
- **One position at a time:** only a single position per Magic number is ever open. There is no pyramiding or averaging in.

Note on the ATR stop and trail: because both the stop distance and the trail scale with ATR, the strategy automatically widens its stops in volatile conditions and tightens them in calm ones — the risk model adapts to the market rather than using a fixed pip distance.

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

Every input below maps directly to the strategy's tunable parameters. Defaults are shown; the listed ranges reflect sensible optimisation bounds.

Parameter	Default	Description
FastEma	8	Fast EMA period — the pullback/reclaim line price must dip below then close back above. Range 4–20, step 1.
MidEma	21	Mid EMA period — the middle of the ribbon; enforces a clean, ordered stack. Range 10–60, step 1.
SlowEma	50	Slow EMA period — the trend backbone whose slope is the regime filter. Range 30–150, step 5.
SlopeLookback	3	How many bars back the Slow EMA slope is measured over. Range 1–10, step 1.
RsiPeriod	14	RSI momentum–confirmation window. Range 7–28, step 1.
RsiLongFloor	45.0	Long RSI floor (short mirror = 100 – this). Keeps entries in healthy momentum. Range 35.0–52.0, step 1.0.
AtrPeriod	14	ATR period used for the volatility-based risk model. Range 7–28, step 1.
AtrStopMult	2.0	Stop-loss distance as a multiple of ATR. Range 1.0–4.0, step 0.25.
RewardRiskRatio	1.8	Take-profit as a multiple of the entry-to-stop risk. Range 1.0–3.5, step 0.1.
BreakEvenAtrMult	1.0	Move the stop to break-even once price runs this many ATR in favour. Range 0.3–3.0, step 0.25.
TrailAtrMult	2.5	ATR distance the trailing stop follows behind price once in profit. Range 1.0–5.0, step 0.25.
Lots	0.10	Position size in lots. Range 0.01–1.0, step 0.05.
Magic	4820	Magic number identifying this EA's positions (ensures only one position per Magic is open).

Fixed guards: the RSI overbought/oversold guards are held constant in code at **78** (upper) and **22** (lower). The tunable entry band is set by `RsiLongFloor`; these guards simply cap the extremes so exhausted moves are avoided.

Recommended Settings

The defaults are a balanced starting point for trending markets. Use the guidance below to adapt the EA to your instrument and timeframe.

Markets & Timeframes

- **Instruments:** trending FX majors, metals (e.g. XAU/USD), and index CFDs tend to suit a pullback-continuation approach best.
- **Timeframes:** M15 through H4. Lower timeframes generate more signals but more noise; higher timeframes give cleaner trends and fewer, larger trades.
- **Sessions:** favour active, directional sessions; avoid thin, range-bound conditions where the gradient stack rarely forms.

Tuning Guidance

- **Choppy instrument?** Widen the ribbon (raise `MidEma` / `SlowEma`) and/or increase `SlopeLookback` to demand a more decisive trend before trading.
- **Want to give trades more room?** Increase `AtrStopMult` and `TrailAtrMult` ; expect fewer stop-outs but larger individual risk.
- **Prefer to bank profit sooner?** Lower `RewardRiskRatio` and tighten `BreakEvenAtrMult` so risk is removed earlier.
- **Position size:** always set `Lots` to match your account size and per-trade risk tolerance before going live.

Always backtest and forward-test first. Run the EA in the MT5 Strategy Tester across multiple years and market regimes, then on a demo account, before committing real capital. Parameters that look optimal on past data can degrade out of sample.

How to Install on MetaTrader 5

- 1 Copy `EmaGradientPullback.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: to locate the correct folder quickly, in MetaTrader 5 choose *File* → *Open Data Folder*, then navigate into `MQL5\Experts\` . Place `EmaGradientPullback.ex5` there and refresh the Navigator.

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.