

Ema Band Bounce

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Trend-Following Pullback

TIMEFRAME

H1 (adaptable)

WEBSITE

www.algotbot.live

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Overview

Ema Band Bounce is a **with-trend** Keltner-channel pullback system: it buys the dip in an uptrend and sells the rally in a downtrend. Most band-based strategies fade the extremes counter-trend — this one deliberately does the opposite. It uses the channel rail only to *time a pullback entry in the direction the market is already trending*, so the bounce rides **with** momentum rather than against it.

The channel is an EMA “spine” (the midline) wrapped in symmetric rails set a configurable ATR multiple above and below it — classic Keltner construction. Trend direction is read directly from the **slope of the EMA** over a lookback window, so there is no second timeframe and no additional indicator. Every rail, stop, and target is derived from the **primary chart timeframe only**, which means the EA runs on whatever symbol and timeframe you attach it to.

The EA trades one position at a time per magic number, sizes with a fixed lot, and attaches a structural ATR stop with a reward:risk take-profit at order submission — there is no trailing or averaging.

How It Works

The Channel (Keltner Rails)

An exponential moving average of closing prices forms the spine. Two rails are placed around it using the Average True Range:

```
upper rail = EMA + (BandMult × ATR)
```

```
lower rail = EMA - (BandMult × ATR)
```

Because the rails are ATR-scaled, the channel automatically widens in volatile conditions and tightens in quiet ones.

Trend Filter (EMA Slope)

Rather than adding an indicator, the EA measures trend from the EMA's own slope. It compares the EMA now against the EMA `SlopeLookback` bars ago:

- **Uptrend** — EMA now is higher than EMA `SlopeLookback` bars ago (rising spine).
- **Downtrend** — EMA now is lower than EMA `SlopeLookback` bars ago (falling spine).

Long Entry — Buy the Dip

In a confirmed uptrend, the EA waits for a bar that briefly dips to the lower rail but is rejected back up. All of the following must be true on the freshly-completed bar:

- The EMA is **rising** (uptrend).
- The bar's **low reached or pierced** the lower rail (`Low ≤ lower`).
- The bar **closed back above** the lower rail (`Close > lower`).
- The bar is **bullish** (`Close > Open`).
- The close is **still below the spine** (`Close < EMA`) — leaving room to revert up.

Short Entry — Sell the Rally

In a confirmed downtrend, the mirror image applies:

- The EMA is **falling** (downtrend).
- The bar's **high reached or pierced** the upper rail (`High ≥ upper`).
- The bar **closed back below** the upper rail (`Close < upper`).
- The bar is **bearish** (`Close < Open`).
- The close is **still above the spine** (`Close > EMA`) — leaving room to revert down.

Stops & Targets

Exits are structural and set once, at entry. For a long, the stop is placed just beyond the pullback extreme — the more distant of the bar low or the lower rail — offset by an ATR multiple; the target is a reward:risk multiple of that stop distance. Shorts mirror this above the pullback high.

LONG:

```
stopBase = min(bar Low, lower rail)
Stop Loss  = stopBase - (SlAtrMult × ATR)
risk       = Entry - Stop Loss
Take Profit = Entry + (RewardRisk × risk)
```

SHORT:

```
stopBase = max(bar High, upper rail)
Stop Loss  = stopBase + (SlAtrMult × ATR)
risk       = Stop Loss - Entry
Take Profit = Entry - (RewardRisk × risk)
```

Note: If the computed risk distance is zero or negative the signal is discarded — the EA never sends an order without a valid, positive stop.

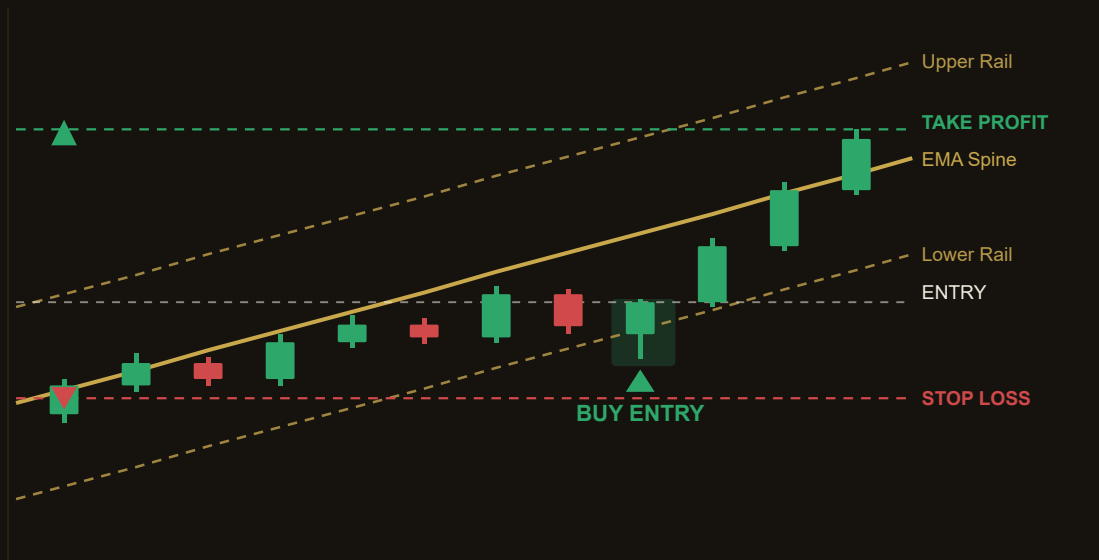
Execution Timing & Position Management

The EA acts **once per closed bar**. It watches the forming bar's timestamp; when that changes, the previous bar (shift 1) has just completed and becomes the signal bar. All EMA, ATR, and OHLC values are read at that freshly-completed bar. Only **one position per magic number** is allowed at a time — while a trade is open, no new signals are taken.

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.

Ema Band Bounce - With-Trend Long Bounce (illustrative)



Illustrative example only. Actual market behaviour varies.

Reading the chart

The EMA spine is rising, confirming an uptrend. The signal bar dips to the lower rail, is rejected, and closes back above it as a bullish candle — while still below the spine (room to revert up). The EA buys the bounce, places the stop just beyond the pullback low (minus an ATR buffer), and sets the take-profit at a 1.8× reward:risk multiple. Price reverts toward the spine and reaches the target.

Parameters

Parameter	Default	Description
EmasPeriod	20	EMA spine period — the channel midline and trend gauge. Integer, range 10–60, step 2.
AtrPeriod	14	ATR period used for the rails and the structural stop. Integer, range 7–30, step 1.
BandMult	1.8	Rail distance from the spine, in ATR multiples (Keltner width). Numeric, range 1.0–3.5, step 0.1.
SlopeLookback	5	Number of bars used to measure EMA slope (the trend filter). Integer, range 2–20, step 1.
SIatrMult	1.0	Stop offset beyond the pullback extreme, in ATR multiples. Numeric, range 0.3–3.0, step 0.1.
RewardRisk	1.8	Take-profit distance as this reward:risk multiple of the stop distance. Numeric, range 0.5–4.0, step 0.25.
Lots	0.10	Fixed trade volume in lots. Numeric, range 0.01–1.0, step 0.05.
Magic	7311	Magic number identifying this EA's positions. Only one position per magic is held at a time.

Recommended Settings

The defaults are a balanced starting point. Begin with the values below, then optimise on your chosen symbol using the parameter ranges in the table above.

- **Symbol:** Liquid major FX pairs (e.g. EUR/USD, GBP/USD) or a trending index CFD.
- **Timeframe:** H1 works well as a default. The logic is timeframe-agnostic — every value is derived from the attached chart — so M15 and H4 are also viable after re-tuning.
- **EmasPeriod 20 / SlopeLookback 5:** Responsive trend read. Raise both for smoother, slower-turning trends; lower them to catch shorter swings.
- **BandMult 1.8:** Widen (toward 2.5–3.5) to demand deeper, rarer pullbacks; narrow it for more frequent but shallower signals.
- **SIatrMult 1.0 / RewardRisk 1.8:** A structural stop with a positive expectancy target. Tighten the stop or raise the reward multiple only if backtests support it.

Tip: Because entries require the close to remain on the “room to revert” side of the spine, a wider `BandMult` combined with a longer `EmaPeriod` produces fewer, higher-conviction setups. Always validate any change on out-of-sample data before trading live.

How to Install on MetaTrader 5

- 1 Copy `EmaBandBounce.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.