

Baseline Deviation Fade

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Mean Reversion (Regime-Filtered)

TIMEFRAME

H1 (Recommended)

WEBSITE

www.algotbot.live

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Overview

Baseline Deviation Fade is a regime-filtered mean-reversion Expert Advisor. Its premise is simple: price repeatedly over-extends away from a moving-average baseline and then snaps back toward it. The EA measures *how far is far* in volatility units — it uses the Average True Range (ATR) to normalise the distance between the just-closed candle and an Exponential Moving Average (EMA) baseline — and only fades the move (trades against it) when **four independent conditions agree at once**.

That four-way agreement is the heart of the design. Any single mean-reversion signal fires far too often and produces a stream of false entries; requiring statistical stretch, momentum exhaustion, a candle-level turn, *and* a calm-regime confirmation all at the same time filters those down to a much smaller set of higher-conviction setups. Crucially, the strategy stays out of the market entirely while the baseline is sloping hard — the exact conditions under which fading a trend bleeds capital.

The logic is fully symmetric for longs and shorts, operates on a single timeframe, and acts only on completed bars, making it objective, non-repainting, and ready to run unattended as an EA.

In one sentence: Fade the over-stretched, oversold/overbought reversal candle — but only when the EMA baseline is flat enough to trust that price will revert to it.

How It Works

On every completed bar the EA recomputes three indicators over the series ending at the bar that just closed: the EMA baseline, the ATR (volatility), and the RSI (momentum). It then evaluates a four-part entry gate. All four parts must be true for the *same* bar before an order is sent.

The Four Entry Conditions

1. **Statistical stretch** — the just-closed bar's close sits at least `DeviationAtrMult` ATRs away from the EMA baseline. Distance is measured in volatility units, so the threshold adapts automatically as the market gets calmer or wilder.
2. **Momentum extreme** — RSI confirms exhaustion: oversold (below `RsiThreshold`) for longs, overbought (above `100 - RsiThreshold`) for shorts.
3. **Candle turn** — that same bar reverses: a bullish close (close > open) for longs, a bearish close (close < open) for shorts. This keeps the EA from fading into a move that is still accelerating.
4. **Regime gate** — the EMA slope, measured in ATR units per bar, is shallow (`|slope| ≤ SlopeAtrMax`). In a strong, one-directional trend, mean-reversion bleeds; those bars are skipped entirely.

ENTRY FORMULAE

```
deviationAtr = (close - EMA) / ATR      // + above baseline, - below
slopeAtr     = (EMA - prevEMA) / ATR   // baseline drift, ATR per bar

LONG when deviationAtr ≤ -DeviationAtrMult
      and RSI < RsiThreshold
      and close > open
      and |slopeAtr| ≤ SlopeAtrMax

SHORT when deviationAtr ≥ +DeviationAtrMult
      and RSI > (100 - RsiThreshold)
      and close < open
      and |slopeAtr| ≤ SlopeAtrMax
```

Order Placement & Risk

When a setup fires, a single market order is sent at the current Ask (long) or Bid (short) with ATR-scaled protective levels. Because both stop and target scale with ATR, the risk footprint stays consistent whether the market is quiet or volatile.

```
LONG   SL = Ask - SlAtrMult × ATR      TP = Ask + TpAtrMult × ATR
SHORT  SL = Bid + SlAtrMult × ATR      TP = Bid - TpAtrMult × ATR
```

Exit Management

The reversion thesis is considered fulfilled the moment price reclaims the baseline. Rather than waiting for the full take-profit, the EA closes the position early once the close crosses back to the EMA:

- A **long** is closed as soon as a bar closes at or above the EMA ($\text{close} \geq \text{EMA}$).
- A **short** is closed as soon as a bar closes at or below the EMA ($\text{close} \leq \text{EMA}$).

The ATR stop-loss and take-profit remain active as hard backstops in case price never reaches the baseline. The EA holds **one position at a time** — it never stacks multiple fades — and processes signals strictly on new-bar completion, so it does not repaint or churn intrabar.

Why fade instead of chase? The regime gate is what makes fading viable. By refusing to trade when $|\text{slopeAtr}|$ exceeds SlopeAtrMax , the EA sidesteps trending conditions and only fades stretches that occur inside a broadly range-bound baseline — where reversion to the mean is statistically far more likely.

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.

In this long example, price extends well below the EMA baseline and pierces the $\text{EMA} - 2 \times \text{ATR}$ trigger while RSI reads oversold. The next candle closes bullish inside the stretched zone — all four conditions align — and the EA opens a long. The stop sits one ATR-multiple below entry; price then reverts and the position is closed

early as the close reclaims the baseline, well before the hard take-profit is required. A short setup is the exact mirror image above the baseline.

Parameters

Parameter	Default	Description
EmaPeriod	50	Period of the EMA baseline that price is faded back toward. Range 20–150, step 5.
AtrPeriod	14	ATR period used to normalise deviation, slope, and to size the stop/target. Range 7–28, step 1.
RsiPeriod	14	RSI period for the momentum-exhaustion filter. Range 7–21, step 1.
DeviationAtrMult	2.00	Minimum stretch in ATRs between the closed bar and the EMA before a fade is allowed. Higher = rarer, deeper setups. Range 1.00–4.00, step 0.25.
RsiThreshold	30	Oversold level for longs; the overbought level for shorts is $100 - \text{RsiThreshold}$ (i.e. 70). Range 15–40, step 5.
SlopeAtrMax	0.40	Maximum absolute EMA slope (in ATR per bar) that still counts as a calm regime. Above this, trends are assumed and fades are skipped. Range 0.10–1.50, step 0.10.
SIatrMult	1.50	Stop-loss distance as a multiple of ATR. Range 0.50–4.00, step 0.25.
TpAtrMult	2.50	Take-profit distance as a multiple of ATR (hard backstop; baseline reclaim usually exits first). Range 0.50–6.00, step 0.25.
Lots	0.10	Fixed order volume in lots. Range 0.01–1.00, step 0.05.
Magic	5310	Magic number identifying this EA's positions, so it manages only its own orders.

Recommended Settings

The defaults are a balanced starting point tuned for liquid instruments on the hourly chart. Adjust from there based on the instrument's character and your own risk tolerance.

- **Symbols:** major FX pairs with tight spreads (e.g. EUR/USD, GBP/USD, USD/JPY). Mean-reversion is spread-sensitive, so favour low-cost instruments.
- **Timeframe:** H1 is the recommended baseline; the logic also transfers to M30 and H4. Keep one timeframe per chart.

- **Deviation & RSI:** `DeviationAtrMult = 2.00` with `RsiThreshold = 30` gives a selective filter. Loosen toward 1.75 / 35 for more trades, tighten toward 2.50 / 25 for fewer, higher-conviction fades.
- **Regime gate:** keep `SlopeAtrMax` low (0.30–0.50) on trending pairs; a higher value admits more setups but re-introduces trend risk.
- **Risk:** the default `SlAtrMult 1.50` / `TpAtrMult 2.50` gives roughly a 1.67:1 reward-to-risk on the hard levels, though early baseline exits typically bank smaller, faster gains.

Example configuration — EUR/USD, H1

EmaPeriod 50, AtrPeriod 14, RsiPeriod 14, DeviationAtrMult 2.00, RsiThreshold 30, SlopeAtrMax 0.40, SlAtrMult 1.50, TpAtrMult 2.50, Lots 0.10. Run on a demo account first and validate on out-of-sample data before committing real capital.

Optimisation tip: Optimise `DeviationAtrMult`, `RsiThreshold`, and `SlopeAtrMax` together — they jointly control how selective the entry gate is. Prefer parameter regions that stay profitable across a range of neighbouring values (a broad plateau) rather than a single sharp peak, which usually indicates curve-fitting.

How to Install on MetaTrader 5

- 1 Copy `BaselineDeviationFade.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

Note: If you have the source file `BaselineDeviationFade.mq5` instead of the compiled `.ex5`, place it in the same `MQL5\Experts\` folder and compile it once in MetaEditor (F7) to produce the `.ex5` before use.

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.