

Vidya Trend Pullback

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Trend Pullback

TIMEFRAME

M15 – H1

WEBSITE

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

Vidya Trend Pullback is a trend-continuation Expert Advisor built around Tushar Chande's **VIDYA** (Variable Index Dynamic Average), an adaptive moving average that adjusts its own smoothing speed to market conditions. Unlike a plain SMA or EMA — which smooth with a fixed weight, lag badly in trends, and whipsaw in chop — VIDYA scales each smoothing step by the *absolute value of the Chande Momentum Oscillator* ($|CMO|$). When price is directionless the up and down moves cancel, $|CMO|$ approaches 0, and the line **flattens — it simply refuses to chase noise**. When a genuine one-sided move arrives, $|CMO|$ approaches 1 and the line accelerates to hug price.

Because of that self-regulating behaviour, a single VIDYA line encodes both the **trend baseline** and a built-in **trend/chop filter**: a meaningfully rising or falling line can only occur when momentum is genuinely persistent. Rather than trading the moving-average cross (which would simply be a lagging MA-cross system), this EA waits for an established trend and then buys **pullbacks back to the adaptive line** — typically the highest-quality, best reward-to-risk trend entry. Every threshold self-scales to volatility through the ATR, and each trade is fully managed by an ATR-based stop-loss and a reward-multiple take-profit.

Natural home: a liquid FX major or an index (EUR/USD, GBP/USD, or US500) on the M15–H1 timeframes. The EA reads only the chart's primary timeframe, so it runs on whatever timeframe the chart or backtest is set to.

How It Works

On each newly-closed bar of the chart timeframe, the EA updates its adaptive line and evaluates a symmetric long/short setup. It holds only one position per magic number at a time, letting the stop and target manage every exit.

The adaptive VIDYA line

The line is recomputed on every closed bar using the classic VIDYA recursion. The MT5 build uses the platform's native `iVIDyA` indicator, which implements exactly the same formula as the reference C# engine:

```
CMO      = (Σ up-moves - Σ down-moves) / (Σ up-moves + Σ down-moves)    over CmoPeriod    (range -1 .. +1)
k        = |CMO|                                                         0 = pure noise, 1 = one-sided drive
alpha    = 2 / (VidyaPeriod + 1)
VIDYA_t  = VIDYA_(t-1) + alpha · k · (Close_t - VIDYA_(t-1))
```

When `k` is near zero the effective step `alpha·k` collapses and the line stops moving; when `k` is near one the line tracks price closely.

Regime filter — is the trend real?

The EA measures the VIDYA line's displacement over `SlopeLookback` bars and compares it to volatility:

- **Uptrend** qualifies when the line has risen by at least `SlopeAtrFrac × ATR` over the lookback.
- **Downtrend** qualifies when the line has fallen by at least that same volatility-scaled amount.

Requiring the move to exceed a fraction of ATR (rather than a fixed number of points) keeps the filter meaningful across instruments and volatility regimes.

Entry logic

LONG SETUP

- **Rising regime** — VIDYA slope $\geq$ `SlopeAtrFrac × ATR` over `SlopeLookback` bars.
- **Pullback touch** — within the last `PullbackBars` bars, a bar's *low* came within `TouchAtrFrac × ATR` of the line (price genuinely retraced to it).
- **Bullish reclaim** — the just-closed signal bar closes *above* VIDYA with a bullish body (close > open): the pullback is resolving upward.
- **Not over-extended** — the close is within `MaxStretchAtr × ATR` of the line, so the ATR stop stays meaningful.

When all four conditions align, the EA buys at the Ask.

SHORT SETUP

The exact mirror image: VIDYA falling by the volatility-significant amount, a bar within the pullback window rallied back up to within $\text{TouchAtrFrac} \times \text{ATR}$ of the line, and the signal bar closes *below* VIDYA with a bearish body while not over-extended. The EA sells at the Bid.

Exit logic — Stop-Loss & Take-Profit

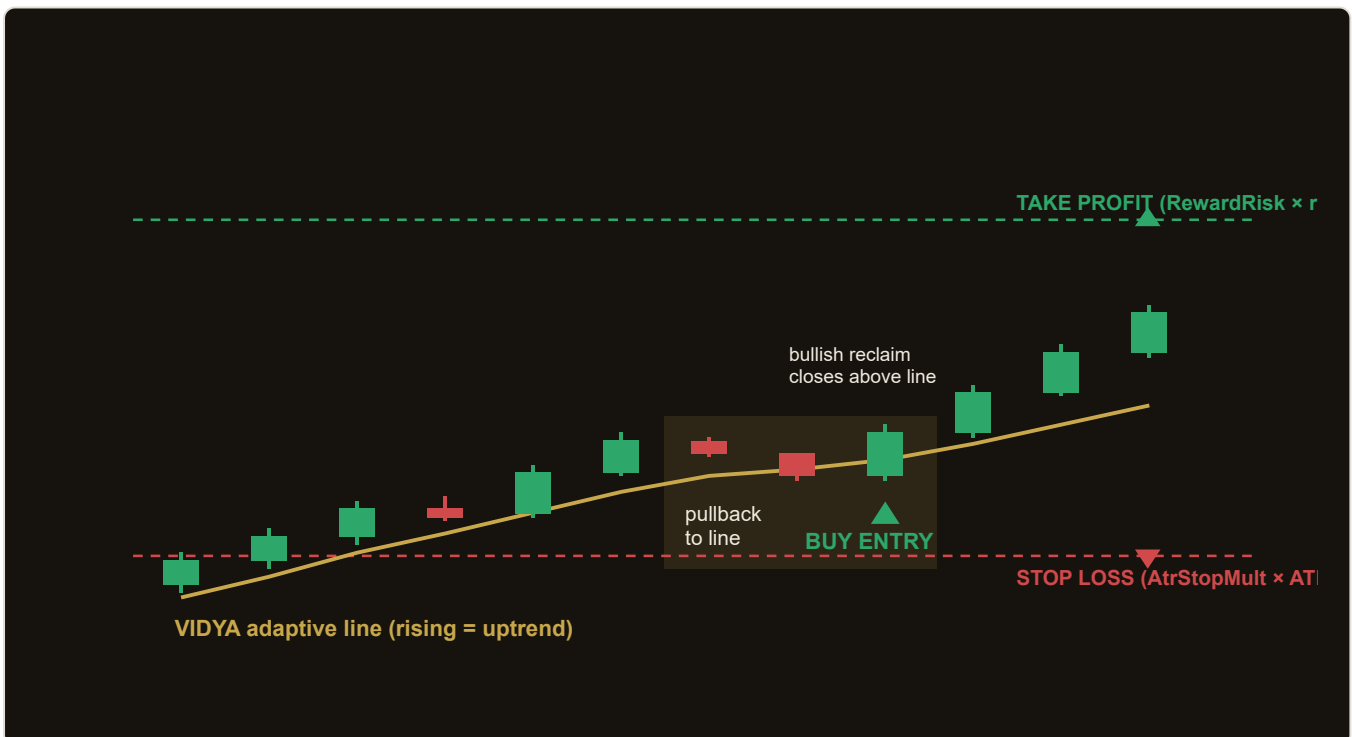
Every position is bracketed at entry and needs no active management:

- **Stop-Loss** — placed $\text{AtrStopMult} \times \text{ATR}$ below the entry for longs (above for shorts). This defines the trade's *risk*.
- **Take-Profit** — placed at $\text{RewardRisk} \times \text{risk}$ in the trade's favour, giving a fixed, ATR-scaled reward-to-risk ratio.

Built-in safeguards: The EA acts only once per newly-closed bar, holds **one position per magic number**, and applies a **spread filter** — new entries are skipped whenever the current spread exceeds `MaxSpreadPoints`, blocking costly fills during illiquid or news-driven conditions.

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.

Reading the chart

The gold VIDYA line rises steadily — a volatility-significant up-slope, so the regime is trending. Price then pulls back and a bar's low touches the line (the shaded zone). The next bar closes back above VIDYA with a bullish body: the pullback has resolved and a

long

is opened. The stop sits $\text{AtrStopMult} \times \text{ATR}$ below entry; the target sits RewardRisk multiples of that risk above it.

Parameters

Parameter	Default	Description
VidyaPeriod	16	VIDYA smoothing length — sets $\alpha = 2 / (\text{period} + 1)$. Range 5–60, step 1.
CmoPeriod	9	Chande Momentum Oscillator lookback that drives VIDYA's adaptivity ($ CMO $). Range 3–30, step 1.
SlopeLookback	3	Number of bars over which the VIDYA up/down slope is measured. Range 1–12, step 1.
SlopeAtrFrac	0.12	VIDYA must move at least this $\times$ ATR over SlopeLookback to count as trending. Range 0.0–1.0, step 0.02.
PullbackBars	4	Window (bars) within which a pullback touch of the line must have occurred. Range 2–15, step 1.
TouchAtrFrac	0.30	A pullback bar's low/high must come within this $\times$ ATR of the VIDYA line. Range 0.0–1.5, step 0.05.
MaxStretchAtr	1.20	Reject reclaims whose close is farther than this $\times$ ATR from the line. Range 0.3–3.0, step 0.1.
AtrPeriod	14	ATR lookback used as the volatility yardstick. Range 5–40, step 1.
AtrStopMult	1.5	Stop-loss distance as a multiple of ATR. Range 0.5–4.0, step 0.1.
RewardRisk	1.8	Take-profit as a multiple of the (ATR) risk. Range 0.5–5.0, step 0.1.
MaxSpreadPoints	80	Skip new entries when the current spread (points) is wider than this. Range 5–300, step 5.
Lots	0.10	Order volume (fixed lot size). Range 0.01–1.0, step 0.05.
Magic	8241	Magic number identifying this EA's trades. Range 0–9,999,999, step 1.

Recommended Settings

The defaults are tuned for a liquid FX major or index on the M15–H1 timeframes. Consider the following starting points and then optimise on your own historical data:

- **Symbol:** EUR/USD, GBP/USD, or US500 — instruments with clean, persistent trends and tight spreads.
- **Timeframe:** M15 or H1. Lower timeframes generate more setups but are noisier; H1 tends to produce cleaner pullbacks.
- **VidyaPeriod / CmoPeriod:** Leave near the defaults (16 / 9). Shorter values make the line more reactive (more, earlier signals); longer values are steadier.
- **SlopeAtrFrac:** Raise it to demand a stronger trend before entering (fewer, higher-conviction trades); lower it to trade shallower trends.
- **AtrStopMult / RewardRisk:** The 1.5 / 1.8 pairing balances stop width against target reach. Widen the stop for volatile instruments; adjust RewardRisk to match the instrument's typical follow-through.
- **MaxSpreadPoints:** Set to reflect your broker's typical spread on the chosen symbol so news-driven spread spikes are filtered out.

Tip: Because every threshold is scaled by ATR, the strategy adapts automatically as volatility changes — you rarely need to re-tune the point-based inputs when moving between similar instruments. Always validate any changes with a fresh backtest and, ideally, a period of forward testing on a demo account.

How to Install on MetaTrader 5

- 1 Copy `VidyaTrendPullback.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.