Algobot
Maximize Your Profits

Time Value Area Reversion

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Mean Reversion (Market Profile)	M5 – H1	www.algobot.live

Overview

Time Value Area Reversion is a Market-Profile mean-reversion Expert Advisor built on the classic **TPO (Time Price Opportunity)** concept from auction-market theory. Instead of tracking volume, VWAP, or closing prices, it builds a distribution from pure **time**: it measures how long price spent at each level over a recent window and finds the price where the market spent the most time — the fairest price, or magnet.

Auction-market theory holds that price spends the bulk of its time inside a central **value area** and only briefly visits prices outside it. When an auction pushes below or above value and then **fails** — price closes back inside — the market has effectively rejected those out-of-value prices and tends to rotate back toward the **Point of Control (POC)**, the single most time-visited price. This EA fades those failed auctions back toward the POC.

The strategy is single-timeframe, price-action / market-structure based, with distinct long and short rules. It runs on whatever timeframe is attached at test time; its natural home is a liquid FX major or an index on M5 through H1.

What makes it different: The histogram is built from *Time Price Opportunities*, not volume. Every closed bar contributes exactly one unit ("one TPO") to every price bucket its High-to-Low range spans. Volume is irrelevant — this is the classic Market Profile time count, not a volume distribution and not a close/typical-price histogram.

How It Works

Building the TPO Profile

On each newly-closed bar, the EA constructs a time-based profile over the `ProfilePeriod` closed bars immediately *before* the signal bar:

- **Window range:** the highest high and lowest low across the profile window are found and the span is divided into `Bins` equal price buckets.
- **TPO count:** each bar deposits **+1** into every bucket that its `[Low, High]` range overlaps. A bar with a tall range touches many buckets; a compressed bar touches few.
- **Point of Control (POC):** the centre price of the bucket holding the most TPOs — the fairest, most time-visited price and the reversion target.
- **Value Area (VAL / VAH):** starting from the POC bucket, the band is grown one bucket at a time toward the busier neighbour until it holds `ValueAreaPercent` (default 70%) of all TPOs. **VAL** is the low edge of the lowest included bucket; **VAH** is the high edge of the highest.

The Balance Gate

Mean reversion to value only works when the market is **rotating / balanced** rather than trending with value pinned to one extreme. The `CenterTolerance` gate enforces this: the POC's relative position in the window must sit within `[tol, 1 - tol]`. If the POC hugs the top or bottom of the range (a one-sided, trending profile), no trade is taken. Setting the tolerance to `0` disables the gate.

Entry Logic

The EA acts once per newly-closed primary bar and fades a *failed* auction outside value:

- **LONG** — the just-closed bar's **low pokes below VAL**, but it **closes back inside value** (above VAL) and is still **below the POC**. The below-value auction has been rejected → buy, targeting the POC.
- **SHORT** — the just-closed bar's **high pokes above VAH**, but it **closes back inside value** (below VAH) and is still **above the POC**. The above-value auction has been rejected → sell, targeting the POC.

Exit Logic — Stop Loss & Take Profit

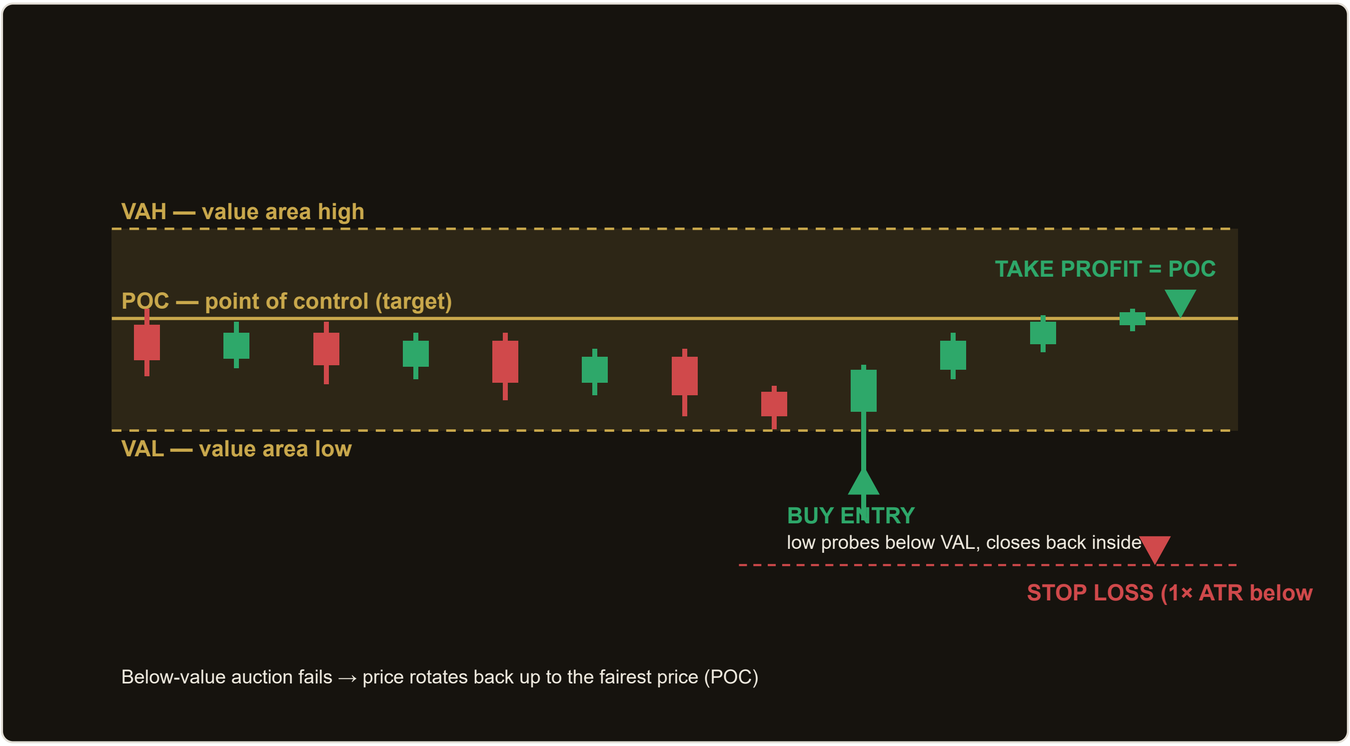
Every position is fully bracketed at entry; there is no discretionary or trailing exit:

- **Take Profit** = the **POC** — the reversion target, the fairest price the market wants to rotate back to.
- **Stop Loss** = one ATR (`AtrStopMult × ATR`) *beyond the rejection probe* — below the probe low for longs, above the probe high for shorts.
- **Reward:Risk filter** — a setup is rejected if the distance to the POC is smaller than `MinRewardRisk ×` the stop distance. This throws out setups already sitting on top of the POC where there is no room to profit.

Position management: Only **one position per magic number** is allowed at a time. Once open, the ATR stop and POC target manage the entire exit. New entries are also skipped whenever the current spread exceeds `MaxSpreadPoints`, protecting against thin 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.

Parameters

Parameter	Default	Description
ProfilePeriod	`60`	Number of closed bars behind the signal bar that build the TPO profile. Range 20–200, step 10.
Bins	`30`	Price-bucket resolution of the profile — more bins give a finer POC/value area. Range 10–60, step 2.
ValueAreaPercent	`0.70`	Fraction of total TPOs that defines the value area (0.70 = classic 70%). Range 0.50–0.90, step 0.05.
CenterTolerance	`0.20`	Balance gate: the POC must sit within `[tol, 1 - tol]` of the window range. 0 disables the gate; larger insists on a more centred/balanced profile. Range 0.00–0.40, step 0.05.
AtrPeriod	`14`	ATR lookback used for stop sizing. Range 5–30, step 1.
AtrStopMult	`1.0`	Stop distance as a multiple of ATR, placed beyond the rejection probe. Range 0.3–3.0, step 0.1.
MinRewardRisk	`0.8`	Reject setups whose POC target is closer than this multiple of the stop distance. Range 0.3–3.0, step 0.1.
MaxSpreadPoints	`60`	Skip new entries when the current spread (points) is wider than this. Range 5–300, step 5.
Lots	`0.10`	Trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	`5417`	Magic number identifying this EA's positions. Range 0–9,999,999, step 1.

Recommended Settings

Time Value Area Reversion is designed for **liquid, rotational markets** — an FX major or a major index — on intraday timeframes where value develops and gets tested repeatedly within a session.

- **Symbols:** liquid FX majors (EURUSD, USDJPY, GBPUSD) or major indices.
- **Timeframe:** M5 to H1. Lower timeframes rebuild value faster; higher timeframes give steadier value areas.
- **Profile window:** the default `ProfilePeriod = 60` and `Bins = 30` give a balanced, well-populated profile. Widen `ProfilePeriod` for a slower session-scale value area; increase `Bins` for finer price resolution on higher-priced instruments.

- **Value area:** keep `ValueAreaPercent` near the classic `0.70`; raising it widens VAH/VAL and produces fewer, deeper probes.
- **Balance gate:** the default `CenterTolerance = 0.20` keeps the EA out of one-sided, trending profiles. Lower it toward 0 to trade more often; raise it to insist on a more centred, rotational market.

Example configuration — EURUSD M15

ProfilePeriod = 60, Bins = 30, ValueAreaPercent = 0.70, CenterTolerance = 0.20, AtrPeriod = 14, AtrStopMult = 1.0, MinRewardRisk = 0.8, MaxSpreadPoints = 30, Lots = 0.10. This fades failed probes outside a 70% value area back to the POC, with a one-ATR stop beyond the rejection wick and a minimum 0.8:1 reward:risk filter.

Tip: Because reversion to value assumes a balanced market, avoid running this EA blindly through strong, sustained trends or major scheduled news. The balance gate and spread filter help, but a trending session where value keeps migrating in one direction is the environment this style handles worst.

How to Install on MetaTrader 5

1. Copy `TimeValueAreaReversion.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: To backtest or optimise, open the MT5 **Strategy Tester**, select `TimeValueAreaReversion.ex5`, choose your symbol and timeframe, and run a test over a representative date range before considering any live deployment.

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.