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Bar Value Trend Shift

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Momentum / Trend Following	Any (H1 recommended)	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

Bar Value Trend Shift is a momentum-based Expert Advisor built on the *Rex Oscillator* (Jack Hutson), a pressure gauge derived from the *True Value of a Bar* (TVB). Instead of reading only the candle body, the Rex Oscillator uses all four OHLC prices to measure genuine net buying or selling pressure on every completed bar:

```
TVB = 3 × Close − (High + Low + Open)
```

A bar that closes near the top of its whole range, above its open and with a short upper wick, drives the TVB strongly positive. A bar that closes near its low, below its open, drives it strongly negative. Balanced or doji bars sit near zero. Because the formula rewards a close near the range top and penalizes long upper wicks or elevated opens, rejection tails are folded directly into the reading — something a body-only pressure gauge cannot do.

Two moving averages turn this raw pressure into a classic fast/slow engine. The **Rex line** is a smoothed average of the TVB, and the **Signal line** is a smoothed average of the Rex line itself. The EA trades the *regime shift* — the crossover of these two lines — but only when pressure is genuinely one-sided, filtered by an ATR-scaled dead-band around zero to reject noise near equilibrium.

> **Core idea:** The crossover marks *when* control changes hands between buyers and sellers; the ATR dead-band confirms that the shift carries real conviction rather than being a flicker at the zero line.

How It Works

The Pressure Engine

On each newly completed bar the EA computes the True Value of a Bar and pushes it into a rolling buffer. Two nested simple moving averages then produce the oscillator:

```
Rex    = SMA(TVB, RexPeriod)      → the pressure line
Signal = SMA(Rex, SignalPeriod)  → its own baseline
```

The Rex line reacts to fresh pressure; the Signal line is a slower baseline of that pressure. When the Rex line pulls decisively away from its own baseline, a new one-sided regime is emerging.

The Conviction Filter

A crossover that happens right at the zero line — where buying and selling are near balance — is treated as noise. To qualify, the Rex line must clear an ATR-scaled dead-band from zero:

```
thr = PressureAtrFraction × ATR(AtrPeriod)
```

This ties the threshold to current volatility, so the same setting adapts across quiet and active markets.

Entry Logic

The EA acts once per completed bar and compares the current oscillator values against the previous bar's values to detect a fresh crossover:

- **Long entry:** the Rex line crosses *above* the Signal line `AND` the Rex line is above `+thr` — a fresh upward shift with buyers in control.
- **Short entry:** the Rex line crosses *below* the Signal line `AND` the Rex line is below `-thr` — a fresh downward shift with sellers in control.

```
crossUp     = prevRex ≤ prevSignal AND rex > signal
crossDown   = prevRex ≥ prevSignal AND rex < signal

longSignal  = crossUp   AND rex >  thr
shortSignal = crossDown AND rex < -thr
```

The long and short rules are distinct and symmetric — the short side is the mirror image of the long side, not a loosened variant.

Exit Logic & Stop-and-Reverse

Every position carries a fixed volatility-based bracket set at entry:

- **Stop-loss:** `AtrSlMult × ATR` away from the entry price.
- **Take-profit:** `AtrTpMult × ATR` away from the entry price.

In addition, the EA is always in the market on the winning side of the most recent qualified shift. If an opposite signal fires while a position is open, the EA performs a **stop-and-reverse**: it closes the existing position and immediately opens a fresh position in the new direction. If already flat, it simply enters. If already positioned in the signalled direction, it holds and does not stack a second trade.

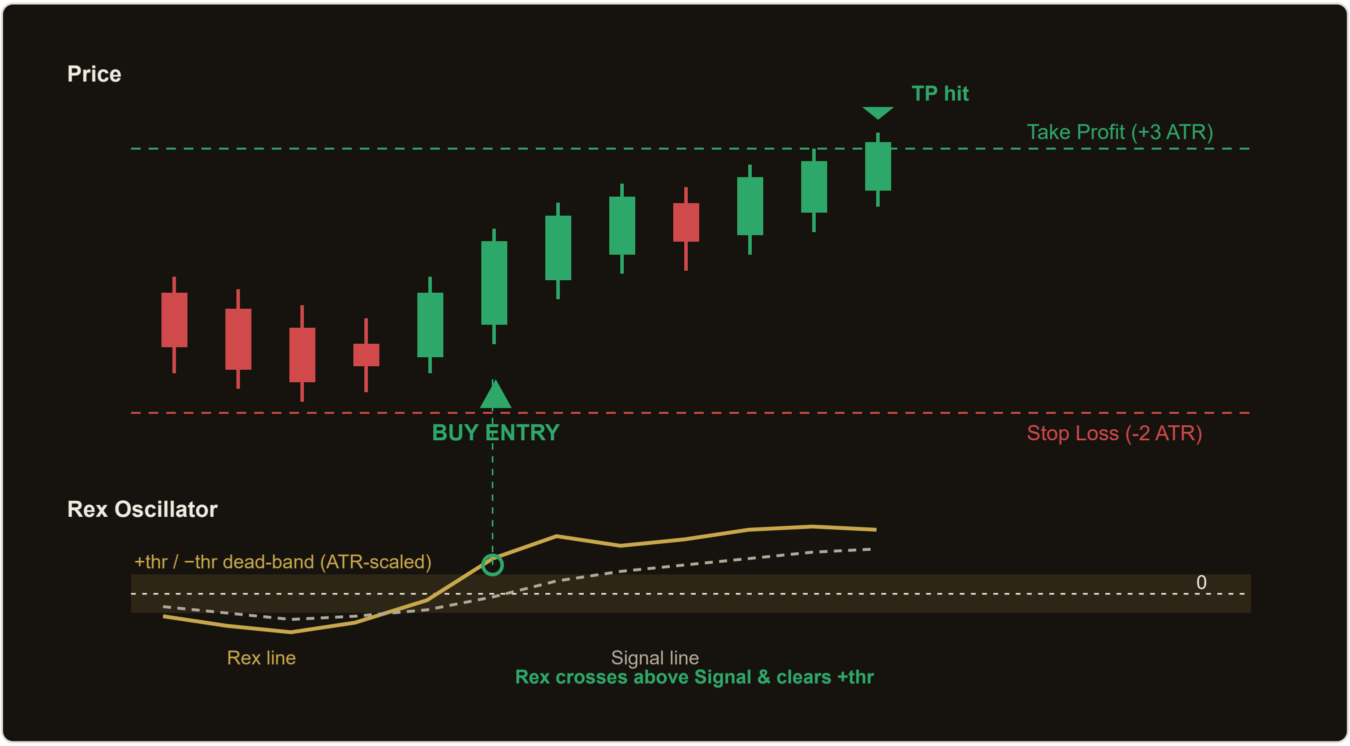
Worked example (long)

Suppose ATR = 0.0020, `PressureAtrFraction = 0.10`, `AtrSlMult = 2.0` and `AtrTpMult = 3.0`. The dead-band is `thr = 0.10 × 0.0020 = 0.0002`. When the Rex line crosses above the Signal line *and* reads above +0.0002, a long is opened at the Ask. The stop sits 0.0040 (2 ATR) below entry and the target 0.0060 (3 ATR) above — a 1.5:1 reward-to-risk bracket.

Single timeframe: every price and indicator read uses the chart's own symbol and period. The system runs on whatever timeframe you attach it to, with no multi-timeframe dependencies.

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
RexPeriod	`8`	SMA length applied to the raw True-Value-of-a-Bar readings to form the Rex pressure line. Range 3–40, step 1.
SignalPeriod	`5`	SMA length applied to the Rex line to form its Signal baseline. Range 2–25, step 1.
PressureAtrFraction	`0.10`	Zero-line dead-band as a fraction of ATR. The Rex line must clear this many ATRs from zero for a crossover to count. Range 0.0–1.0, step 0.05.
AtrPeriod	`14`	ATR lookback used both for the dead-band threshold and for stop/target sizing. Range 5–40, step 1.
AtrSlMult	`2.0`	Stop-loss distance expressed as a multiple of ATR from the entry price. Range 0.5–6.0, step 0.5.
AtrTpMult	`3.0`	Take-profit distance expressed as a multiple of ATR from the entry price. Range 0.5–10.0, step 0.5.
Lots	`0.10`	Fixed position size in lots for every entry. Range 0.01–1.0, step 0.05.
Magic	`4207`	Magic number identifying and isolating this EA's positions from other trades on the account.

Recommended Settings

The defaults are a balanced starting point. Because the strategy trades a smoothed regime shift with a volatility-scaled bracket, it tends to suit clean, trending instruments on intraday-to-swing timeframes.

- **Timeframe:** H1 is a sensible starting point; the logic works on any timeframe, so match it to how frequently you want signals.
- **Symbols:** liquid FX majors and other instruments with well-behaved OHLC structure, where the full-bar pressure reading is most meaningful.
- **Smoothing:** keep `RexPeriod` comfortably larger than `SignalPeriod` so the fast/slow relationship holds; the 8 / 5 default is a good baseline.
- **Conviction filter:** raise `PressureAtrFraction` (e.g. 0.15–0.25) to demand stronger, one-sided shifts and cut whipsaws in choppy conditions; lower it toward 0 for more, earlier signals.
- **Risk bracket:** the default 2 ATR stop / 3 ATR target gives a 1.5:1 reward-to-risk. Widen `AtrTpMult` for stronger-trending markets.

> **Tip:** Always validate any parameter change in the MT5 Strategy Tester on your chosen symbol and timeframe before trading live. The ATR-based dead-band and bracket adapt to volatility, but the optimal smoothing lengths differ from market to market.

> **Note on position sizing:** `Lots` is a fixed volume — it does not scale with account equity or stop distance. Size it appropriately for your account and risk tolerance, and remember that stop-and-reverse means the EA can flip direction and re-enter on the very next qualified opposite signal.

How to Install on MetaTrader 5

1. Copy `BarValueTrendShift.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

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