

Volume Index Conviction Trend

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Volume-Confirmed Trend Following

TIMEFRAME

M15 / M30 Intraday

WEBSITE

www.algobot.live

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Overview

Volume Index Conviction Trend is a trend-following Expert Advisor built on the classic Fosback / Dysart volume-index framework — the *Positive Volume Index* (PVI) and the *Negative Volume Index* (NVI). Rather than treating every bar equally, the strategy splits the market into two crowds by participation: it separates what the informed “smart money” is doing from what the uninformed public is doing, and it trades only in the direction the smart money is quietly leaning.

The core idea rests on a simple observation about volume. On **busy** bars — when tick volume rises versus the previous bar — the uninformed public is active and the crowd dominates price movement. On **quiet** bars — when tick volume falls — the crowd has stepped back and informed participants can accumulate or distribute without a crowd to hide behind. The EA tracks each of these regimes with its own cumulative index and uses the smart-money index as its primary, higher-conviction signal.

The Negative Volume Index (NVI) is the star. When NVI trades **above** its own long exponential moving average, Fosback found that a bull regime is strongly favoured — smart money is quietly accumulating. When NVI sits below that EMA, distribution is underway. The Positive Volume Index (PVI) — the crowd’s index — is used only as a same-side confirmation, so the EA never opens a position while the public is stampeding hard in the opposite direction.

In one sentence: the strategy goes long when the smart-money index (NVI) crosses above its EMA on a rising bar and the crowd is not fighting the move, and goes short on the mirror-image setup — using an ATR-based stop and target as its hard backstop.

How It Works

The Two Volume Indices

Both indices start at a Fosback base value of `1000` and are updated once per closed bar. Only the percentage change in the close is ever applied, and each index only moves on the bars that “belong” to its crowd:

```
pct_t = (Close_t - Close_{t-1}) / Close_{t-1}

if TickVolume_t < TickVolume_{t-1}:    NVI_t = NVI_{t-1} * (1 + pct_t)    // quiet bar -> smart money
if TickVolume_t > TickVolume_{t-1}:    PVI_t = PVI_{t-1} * (1 + pct_t)    // busy bar -> the crowd
```

When volume is unchanged, neither index moves. Each index is then smoothed with an exponential moving average of length `SignalPeriod` (the “signal EMA”), giving `EMA(NVI)` and `EMA(PVI)`. The relationship between an index and its own EMA defines that crowd’s regime.

Entry Logic

A signal requires the smart-money index to cross its EMA *and* to be moving in the trade’s direction, with the crowd not opposing it:

- **Long entry** — NVI crosses *above* its EMA (`crossUp`), NVI is rising versus the prior bar (`nviRising`), and PVI is at or above its own EMA (`pviBull` — the crowd is not opposing an up move).
- **Short entry** — NVI crosses *below* its EMA (`crossDown`), NVI is falling (`nviFalling`), and PVI is at or below its own EMA (`pviBear`).

Entries are evaluated only once per bar, after the previous bar has fully closed. This new-bar gate means signals never repaint: the EA reads the bar at shift 1 (the just-closed bar) and acts on the confirmed sample rather than the still-forming candle.

Exit Logic

The EA holds a single position at a time and manages it before considering any new entry:

- **Flip** — if the opposite full signal fires while a trade is open (e.g. a short signal against an existing long), the position is closed and the new one is opened in the same pass.

- **Regime lost** — if NVI simply crosses back through its EMA against the open trade (a plain `crossDown` against a long, or `crossUp` against a short) without a full opposite signal, the position is closed flat and the EA stands aside.
- **Hard backstop** — every position is submitted with an ATR-based stop-loss and take-profit. These act as the safety net if price moves against the trade before any index cross occurs.

Stops & Targets

Risk distances are volatility-adaptive, derived from the Average True Range (ATR) of the just-closed bar:

```
slDist = SlMult * ATR(AtrPeriod)
tpDist = TpMult * ATR(AtrPeriod)

Long : SL = entry - slDist ,  TP = entry + tpDist
Short: SL = entry + slDist ,  TP = entry - tpDist
```

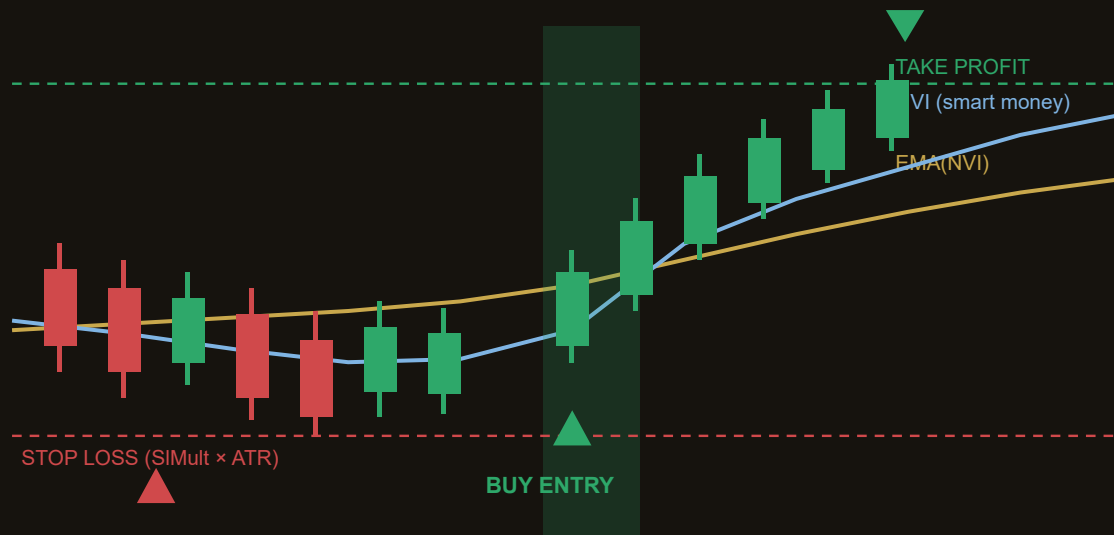
Because the stop and target scale with ATR, the EA automatically widens its risk envelope in volatile conditions and tightens it in quiet ones, keeping the trade's risk proportionate to current market range.

Warm-up: the EA waits until it has processed at least `max(SignalPeriod, AtrPeriod) + 2` confirmed bars before it will trade, so that the signal EMAs and the ATR are meaningful. On defaults that is `42` bars.

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.

Volume Index Conviction Trend — NVI crosses above its EMA



Illustrative example only. Actual market behaviour varies.

In the example, price chops sideways-to-down while the NVI slips below its EMA. On the highlighted bar the NVI turns up and crosses back *above* its EMA on a rising bar — and with PVI confirming that the crowd is not fighting the move, the EA opens a long. The smart-money trend then carries price up to the ATR-based take-profit; had the move failed instead, the ATR stop-loss below would have capped the loss.

Parameters

Parameter	Default	Description
SignalPeriod	40	Length of the exponential moving average applied to both the NVI and PVI indices. Longer periods produce a smoother, slower signal with fewer, higher-conviction crosses. Range 10–150, step 5.
AtrPeriod	14	Number of bars in the Average True Range used to size the stop-loss and take-profit. Range 5–40, step 1.
SIMult	2.00	Stop-loss distance as a multiple of ATR ($SL = SIMult \times ATR$). Higher values give the trade more room at the cost of a larger risk per trade. Range 0.50–5.00, step 0.10.
TpMult	3.00	Take-profit distance as a multiple of ATR ($TP = TpMult \times ATR$). The default 3.00 versus a 2.00 stop yields a 1.5:1 reward-to-risk target. Range 0.50–8.00, step 0.10.
Lots	0.10	Fixed trade size in lots. The EA floors the value at 0.01 lots. Range 0.01–1.00, step 0.05.
Magic	52070	Magic number used to tag and identify this EA's positions so it manages only its own trades on the symbol.

Recommended Settings

The strategy is designed for a liquid FX major such as **EUR/USD** on an intraday timeframe of **M15** or **M30**, where tick volume is a reliable proxy for participation and the busy/quiet distinction is meaningful.

SUGGESTED STARTING CONFIGURATION

- **Symbol:** EUR/USD (or another liquid major with dense tick volume)
- **Timeframe:** M15 or M30
- **SignalPeriod:** 40 — a robust default; raise toward 60–80 for fewer, higher-conviction signals or lower toward 20–30 for a more responsive index
- **AtrPeriod:** 14 — the conventional volatility window
- **SIMult / TpMult:** 2.00 / 3.00 — a balanced 1.5:1 target that lets trends run
- **Lots:** size to keep the ATR-based stop within a small fraction of account equity

Example — position sizing

On EUR/USD M30 with ATR at roughly 0.0009 (9 pips) and `SIMult = 2.00`, the stop sits about 18 pips from entry. At 0.10 lots that is around \$18 of risk per trade — keep your lot size such that this is a small, comfortable fraction of your account balance.

Tip: because the EA acts only on closed bars, run it on a stable connection or a VPS so it never misses a bar close. Backtest across several market regimes before committing to live settings, and re-check `SignalPeriod` per symbol — the ideal signal length varies with how a symbol's volume behaves.

How to Install on MetaTrader 5

- 1 Copy `VolumeIndexConvictionTrend.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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