

Power Balance Momentum

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Momentum / Trend-Following	H1 (intraday)	www.algotbot.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

Power Balance Momentum is a momentum, trend-following Expert Advisor built around the *Balance of Power* (BoP) indicator — a pure price-action gauge of who controlled each finished bar. For every completed candle the EA measures conviction as:

$$\text{BoP} = (\text{Close} - \text{Open}) / (\text{High} - \text{Low}) \quad \text{range } [-1 \dots +1]$$

A reading near **+1** means buyers dragged price from the low all the way to the high (strong bullish conviction); a reading near **-1** means sellers dominated the bar. Because raw BoP is noisy, the EA smooths it with an exponential moving average (EMA). When the smoothed BoP pushes decisively **up** through a positive threshold, control has flipped to the bulls and the EA goes long. When it pushes **down** through the mirror-image negative threshold, sellers have taken over and the EA goes short. A neutral dead-band around zero filters out choppy, balanced bars where neither side is in charge.

Exits are risk-scaled to volatility using the Average True Range (ATR), and an opposite threshold cross reverses the position — so the book always sits on the side of prevailing momentum.

How It Works

The Balance of Power signal

On each newly formed bar of the primary timeframe, the EA reads the **just-closed** bar (shift 1) so that every signal is built on complete data. It computes that bar's Balance of Power, appends it to a rolling window, and takes an EMA over the last `BopPeriod` values. Two smoothed values are compared:

- **sCurr** — the smoothed BoP including the latest closed bar.
- **sPrev** — the smoothed BoP one bar earlier.

Comparing the two lets the EA detect the exact moment control crosses a threshold rather than simply resting above or below it.

Entry logic

When the EA is flat, it enters on a fresh threshold cross:

- **Go long** when the smoothed BoP crosses *up* through `+Threshold` (`sPrev ≤ +T` and `sCurr > +T`) — the bulls have taken control.
- **Go short** when the smoothed BoP crosses *down* through `-Threshold` (`sPrev ≥ -T` and `sCurr < -T`) — the bears have taken control.

The dead-band. The zone between `-Threshold` and `+Threshold` is a neutral no-trade region. As long as smoothed BoP stays inside it, neither side is decisively in charge, so the EA waits. Raising `Threshold` widens this band and demands stronger conviction before entering; lowering it makes the EA more responsive but more prone to noise.

Exit logic — ATR-scaled SL / TP

Every position is protected by a stop-loss and take-profit sized from current volatility. Using the ATR of the just-closed bar:

```
Long:   SL = Ask - AtrSlMult × ATR      TP = Ask + AtrTpMult × ATR
Short:  SL = Bid + AtrSlMult × ATR      TP = Bid - AtrTpMult × ATR
```

Because the distances scale with ATR, the EA automatically gives trades more room in volatile conditions and tightens up when the market is calm. With the defaults (`AtrSlMult 2.0` , `AtrTpMult 3.0`) each trade targets a **1.5 : 1 reward-to-risk** ratio.

Reversal behaviour

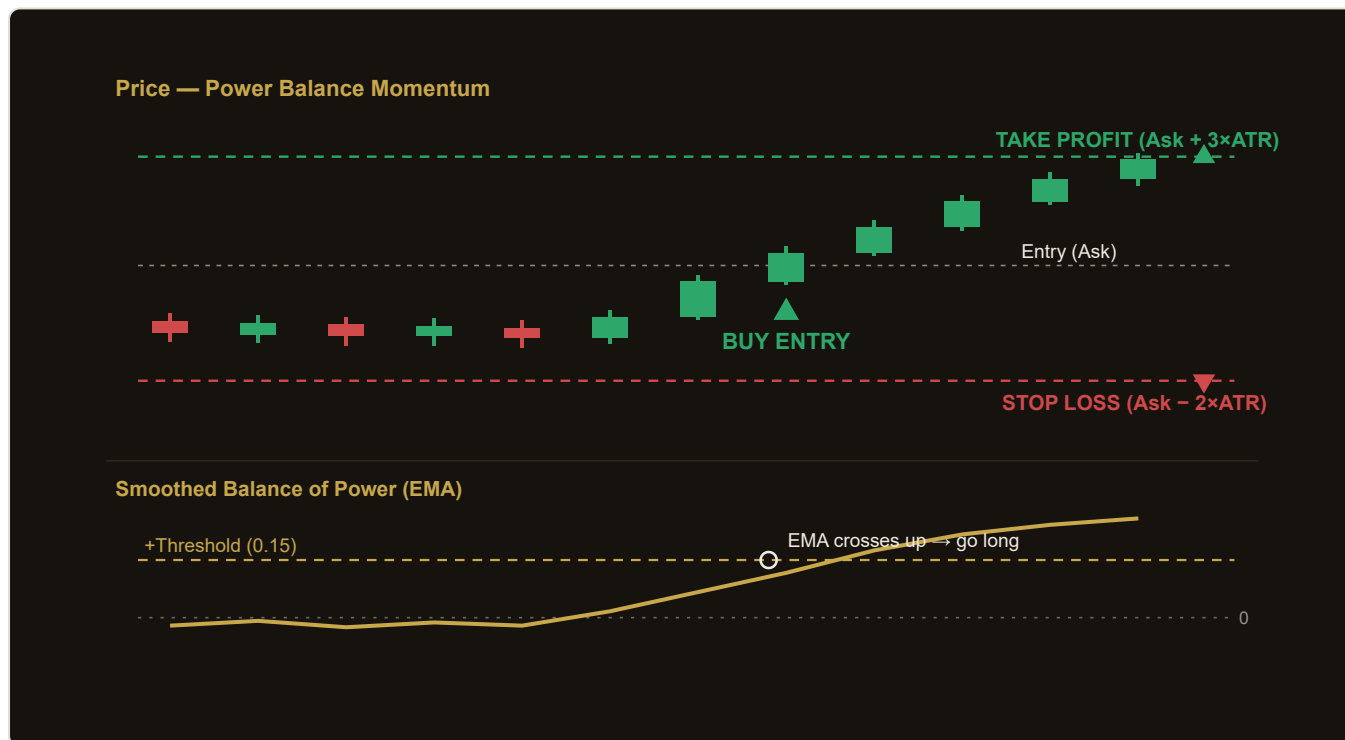
While a trade is open the EA does not add or scale. It simply watches for momentum to flip to the other side: if it is **long** and a down-cross fires, it closes the long and opens a short; if it is **short** and an up-cross fires, it closes the short and opens a long. This keeps a single position always aligned with the prevailing balance of power.

Worked example

Price chops sideways with small, indecisive bars, keeping smoothed BoP inside the dead-band — the EA stays flat. A strong bullish bar then closes on its high (BoP near +1), dragging the EMA up through $+0.15$. On the next bar the EA buys at the Ask, places its stop $2\times\text{ATR}$ below and its target $3\times\text{ATR}$ above. Price rallies into the target and the trade is closed for a profit — or, if momentum instead flips and BoP crosses below -0.15 , the long is closed and a fresh short is opened.

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
BopPeriod	14	EMA period used to smooth the raw Balance of Power series. Higher = smoother, slower signals. Range 5–40, step 1.
Threshold	0.15	Trigger level and half-width of the neutral dead-band for smoothed BoP. Long on an up-cross of +Threshold, short on a down-cross of –Threshold. Range 0.00–0.50, step 0.05.
AtrPeriod	14	ATR lookback used to size the stop-loss and take-profit distances. Range 5–30, step 1.
AtrSIMult	2.0	Stop-loss distance as a multiple of ATR (entry –/+ AtrSIMult × ATR). Range 0.5–5.0, step 0.25.
AtrTpMult	3.0	Take-profit distance as a multiple of ATR (entry +/- AtrTpMult × ATR). Range 0.5–8.0, step 0.25.
Lots	0.10	Fixed order volume in lots. Range 0.01–2.0, step 0.01.
Magic	730145	Magic number identifying this EA's positions so it manages only its own trades.

Recommended Settings

The strategy is designed for momentum trading on the primary timeframe and works well on intraday FX or index charts. A reasonable starting configuration:

- **Symbols:** Liquid majors (EURUSD, GBPUSD, USDJPY) or major indices with tight spreads.
- **Timeframe:** H1 for a balance of signal frequency and reliability; M15–H4 also viable depending on your trading style.
- **BopPeriod:** 14 (default). Increase toward 20–25 for quieter, cleaner signals on noisier symbols.
- **Threshold:** 0.15 (default). Widen toward 0.20–0.30 to demand stronger conviction and cut down on whipsaws.
- **ATR exits:** Keep the 2.0 / 3.0 SL/TP multipliers for a 1.5 : 1 reward-to-risk profile; adjust to taste.
- **Lots:** Size conservatively relative to account equity — the default 0.10 is a starting point, not a recommendation.

Always backtest and forward-test first. Optimise `BopPeriod` and `Threshold` together on your chosen symbol and timeframe using the MT5 Strategy Tester, then validate on out-of-sample data and a demo account before considering any live use.

How to Install on MetaTrader 5

- 1 Copy `PowerBalanceMomentum.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.