Algobot
Maximize Your Profits

Opening Balance Reversion

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Mean Reversion (Intraday)	M15 · Intraday FX	www.algobot.live

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Overview

Opening Balance Reversion is an intraday, time-anchored mean-reversion Expert Advisor. At the start of each trading session — detected from bar timestamps beginning at `SessionStartHour` (UTC) — the strategy measures the high and low of the first `OpeningRangeBars` bars. This early range is the session's *opening balance*: the price band where the day's initial auction discovers value.

The core premise is that the **midpoint of the opening balance acts as a magnet** for the remainder of the session. When price extends to poke an edge of the balance and is then **rejected back inside**, the EA fades that failed extension back toward the centre. It deliberately avoids genuine trend days: a poke larger than `MaxPokeAtrMult × ATR` beyond the edge is treated as a real breakout and ignored, never faded.

The system is symmetric long/short, takes at most one attempt per side per session, holds a single position at a time, and is always flat by `SessionEndHour` — there is no overnight carry. It uses only the primary timeframe and is intended for intraday FX such as EURUSD or GBPUSD on M15.

> **Design intent.** This is a *range/balance* EA, not a trend follower. It profits when the market chops and rotates around its early value area, and it is engineered to step aside — via the max-poke filter and the hard session flatten — when a directional trend day develops instead.

How It Works

1. Session anchoring

Logic runs once per freshly-completed bar (the bar at shift 1), so signals never repaint. Each bar's UTC date is compared against the tracked session date:

- When a **new calendar day** is seen and the hour has reached `SessionStartHour`, all positions are flattened and a fresh session (with a new opening balance) begins.
- During **pre-session hours**, the EA stays idle and holds no risk.
- Any position left open across a session boundary is closed — there is no overnight or between-session carry.

2. Building the opening balance

From the session start, the EA accumulates the running high and low over the first `OpeningRangeBars` bars. Once that many bars have been collected (and the high is above the low), the balance is locked in and its midpoint is computed:

```
orHigh = max(high) over first N bars
orLow  = min(low)  over first N bars
orMid  = 0.5 × (orHigh + orLow)
width  = orHigh − orLow
```

No trades are taken until the balance is complete.

3. Qualifying the balance

Before any fade is considered, two volatility filters must pass, both scaled by the current ATR (period `AtrPeriod`, read from the just-closed bar):

- **Minimum width:** the balance width must be at least `MinRangeAtrMult × ATR`. A balance too shallow to fade is skipped.
- **Maximum poke:** the extension beyond an edge must not exceed `MaxPokeAtrMult × ATR`. A larger poke is a runaway trend break and is ignored.

4. Entry logic

Once the balance is ready and inside the session window, the EA looks for a **rejected poke** on the just-closed bar:

SHORT — FADE THE TOP

- The bar's high **reached the upper edge** (`high ≥ orHigh`),

- but did not exceed it by more than the max poke (`high ≤ orHigh + MaxPokeAtrMult × ATR`),
- the bar **closed back inside** the balance (`close < orHigh`),
- and it is a **bearish rejection bar** (`close < open`).

A market sell is sent, with target and stop as below.

LONG — FADE THE BOTTOM

- The bar's low **reached the lower edge** (`low ≤ orLow`),
- but did not exceed it by more than the max poke (`low ≥ orLow − MaxPokeAtrMult × ATR`),
- the bar **closed back inside** the balance (`close > orLow`),
- and it is a **bullish rejection bar** (`close > open`).

A market buy is sent. Each side fires at most once per session (`_longDone` / `_shortDone` latches), and only one position from this EA's Magic can be open at a time.

5. Stop loss & take profit

Risk is placed just beyond the rejected extreme, and the target sits a fraction of the range back inside the balance toward the midpoint:

```
SHORT:  TP = orHigh − TargetFraction × width
        SL = orHigh + StopAtrMult × ATR

LONG:   TP = orLow  + TargetFraction × width
        SL = orLow  − StopAtrMult × ATR
```

A degenerate-target guard rejects any setup whose reward is smaller than `0.20 × ATR` , and the trade is only sent when the stop sits on the correct side of the current price.

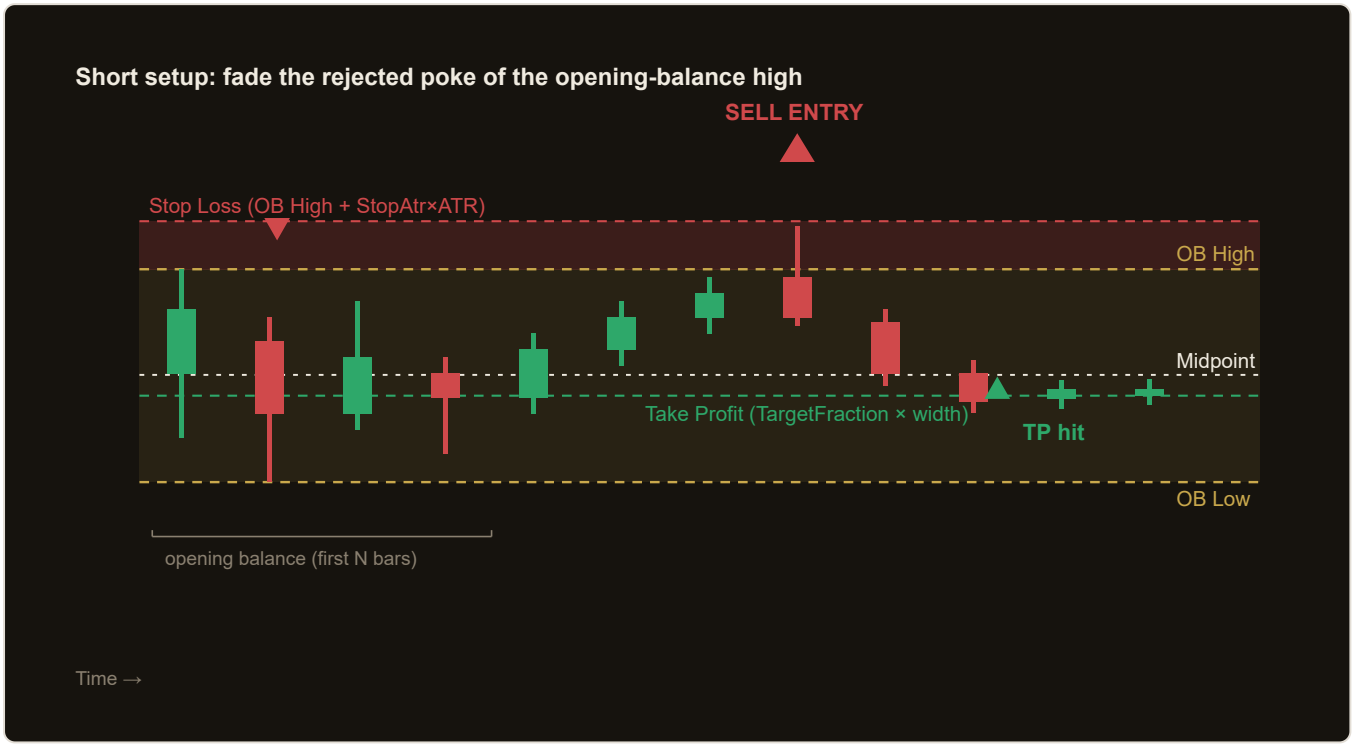
6. Break-even trail & session close-out

- **Break-even:** on every tick, once price has travelled `BreakevenAtr × ATR` in the trade's favour, the stop is pulled to the entry price (set `BreakevenAtr = 0` to disable).
- **Session flatten:** once the bar hour reaches `SessionEndHour` , trading stops and any open position is closed — the EA is always flat outside the session window.

> **Why the midpoint?** The opening balance is where early participants agreed on value. When a probe of an edge fails and price closes back inside, the odds favour rotation back toward that agreed value. The take-profit deliberately targets the interior of the balance (a `TargetFraction` of the width, which at the default 0.60 sits just past the midpoint) rather than the far edge — capturing the reversion without overstaying.

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 first bars carve out the opening balance (gold band) with its high, low, and midpoint. Later, a bar spikes into the red poke zone above the high but closes back inside as a bearish candle — a rejected poke. The EA sells at the close, places the stop just above the poke, and targets a `TargetFraction` of the range back inside toward the midpoint. Price rotates down into the value area and the take-profit is hit. Had the spike closed *above* the high, or poked beyond `MaxPokeAtrMult × ATR`, no trade would have been taken.

Parameters

Parameter	Default	Description
SessionStartHour	`7`	UTC hour a fresh session (and its opening balance) begins. Range 0–23, step 1.
OpeningRangeBars	`4`	Number of bars from the start hour that form the opening-balance box. Range 1–16, step 1.
SessionEndHour	`18`	UTC hour to stop taking trades and flatten (end of the session window). Range 1–23, step 1.
AtrPeriod	`14`	ATR lookback used for the width, poke, stop, and break-even calculations. Range 5–30, step 1.
MinRangeAtrMult	`1.00`	Opening-balance width must be at least this many ATRs to be worth fading. Range 0.20–4.00, step 0.10.
MaxPokeAtrMult	`0.75`	Largest poke beyond the edge (in ATRs) still treated as a rejection rather than a trend break. Range 0.10–2.50, step 0.05.
TargetFraction	`0.60`	Take-profit as a fraction of the balance width, measured back in from the poked edge. Range 0.30–1.00, step 0.05.
StopAtrMult	`0.80`	Stop distance beyond the rejected extreme, in ATRs. Range 0.30–3.00, step 0.10.
BreakevenAtr	`0.80`	Move the stop to break-even once price travels this many ATRs in favour (0 = off). Range 0.00–3.00, step 0.10.
Lots	`0.10`	Order volume in lots. Range 0.01–1.00, step 0.05.
Magic	`8163`	Magic number identifying this EA's orders and positions.

Recommended Settings

The strategy is designed for liquid intraday FX pairs on the M15 timeframe. Suggested starting points:

- **Symbols:** EURUSD, GBPUSD (major, tight-spread pairs that rotate around their early value area).
- **Timeframe:** M15. With the defaults, `OpeningRangeBars = 4` on M15 forms a one-hour opening balance.
- **Session window:** `SessionStartHour = 7` UTC to `SessionEndHour = 18` UTC captures the London/early-US rotation. Align these to your broker's server-vs-UTC offset.

- **Filters:** keep `MinRangeAtrMult ≈ 1.0` and `MaxPokeAtrMult ≈ 0.75` to fade meaningful balances while stepping aside on runaway breaks. Raise `MinRangeAtrMult` to trade fewer, wider balances.
- **Risk:** size `Lots` to your account so a `StopAtrMult` stop is a small, fixed fraction of equity. Leave `BreakevenAtr` on to protect winners.

> **Time-zone tip.** `SessionStartHour` and `SessionEndHour` are interpreted from the bars' timestamps. If your broker's server time is not UTC, shift these hours by your broker's offset so the session anchors to the intended market open.

> **Not for trending days.** This is a counter-trend fade. On strong directional days the max-poke filter will keep it out of most trades, but a stop can still be hit if a rejection reverses. Never remove the `MaxPokeAtrMult` guard or the session flatten in an attempt to "catch more" — those are the safeguards that keep the strategy from fighting a genuine trend.

How to Install on MetaTrader 5

1. Copy `OpeningBalanceReversion.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 (EURUSD, M15)
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.