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Mass Index Bulge Institutional Reversal

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Mean Reversion	H1 (US30)	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

Mass Index Bulge Institutional Reversal is a counter-trend, mean-reversion Expert Advisor designed for the US30 (Dow Jones) index on the H1 timeframe. It uses the **Mass Index** — an indicator built from the ratio of a single-smoothed to a double-smoothed exponential average of the high-low range — to detect when volatility has expanded far enough to signal that an established move is about to exhaust and reverse.

The core idea is that large institutional flows leave a footprint: a sharp widening of the daily trading range, followed by a contraction. The Mass Index captures this as a **"reversal bulge"** — the index rising above a high threshold and then falling back below a trigger level. When that bulge completes, the EA fades the prevailing trend, entering against the exhausted move and managing the position with an ATR-based stop and a reward-multiple take-profit.

> **In one sentence:** when the Mass Index bulges above `BulgeLevel` and then drops back below `TriggerLevel`, the EA fades the current trend — selling an exhausted up-move or buying an exhausted down-move — with the trade side chosen by price relative to its trend EMA.

How It Works

1. Building the Mass Index

On every newly closed bar the EA computes the bar's **range** (High − Low) and feeds it through two chained exponential moving averages, each using `EmaPeriod`:

- **Single EMA** (`e1`) — an EMA of the raw range.
- **Double EMA** (`e2`) — an EMA of `e1`.
- **Ratio** — `e1 / e2`, the relative expansion of the range.

The **Mass Index** is the sum of the most recent `SumPeriod` ratios. A rising Mass Index means the recent range is expanding faster than the smoothing can absorb — a hallmark of a volatility bulge that often precedes a turn.

2. The Reversal Bulge State Machine

A single reading of the Mass Index is not enough; the EA waits for a complete bulge-and-collapse cycle:

- When the Mass Index rises **above** `BulgeLevel` (default 27.0), the bulge flag is **armed**.
- When the Mass Index then falls back **below** `TriggerLevel` (default 26.5) while armed, a **trigger** fires and the flag is consumed.

This two-step logic ensures the EA only acts once the range expansion has actually begun to contract — i.e. the exhaustion is confirmed, not merely underway.

3. Choosing the Side

Direction is decided by price relative to a **trend EMA** (`TrendEma`, default 50) evaluated on the closed bar:

- **SHORT** — the bulge completes while price is **above** its trend EMA (an up-move exhausting → fade it down).
- **LONG** — the bulge completes while price is **below** its trend EMA (a down-move exhausting → fade it up).

4. Entry, Stop, and Target

On a valid trigger the EA sends a single market order sized at `Lots`. Risk is framed by the Average True Range (`AtrPeriod`):

- **Stop loss** is placed `AtrStopMult × ATR` away from entry (above for shorts, below for longs).
- **Take profit** is set at the stop distance multiplied by `RewardRatio` — i.e. `AtrStopMult × ATR × RewardRatio` in the profitable direction.

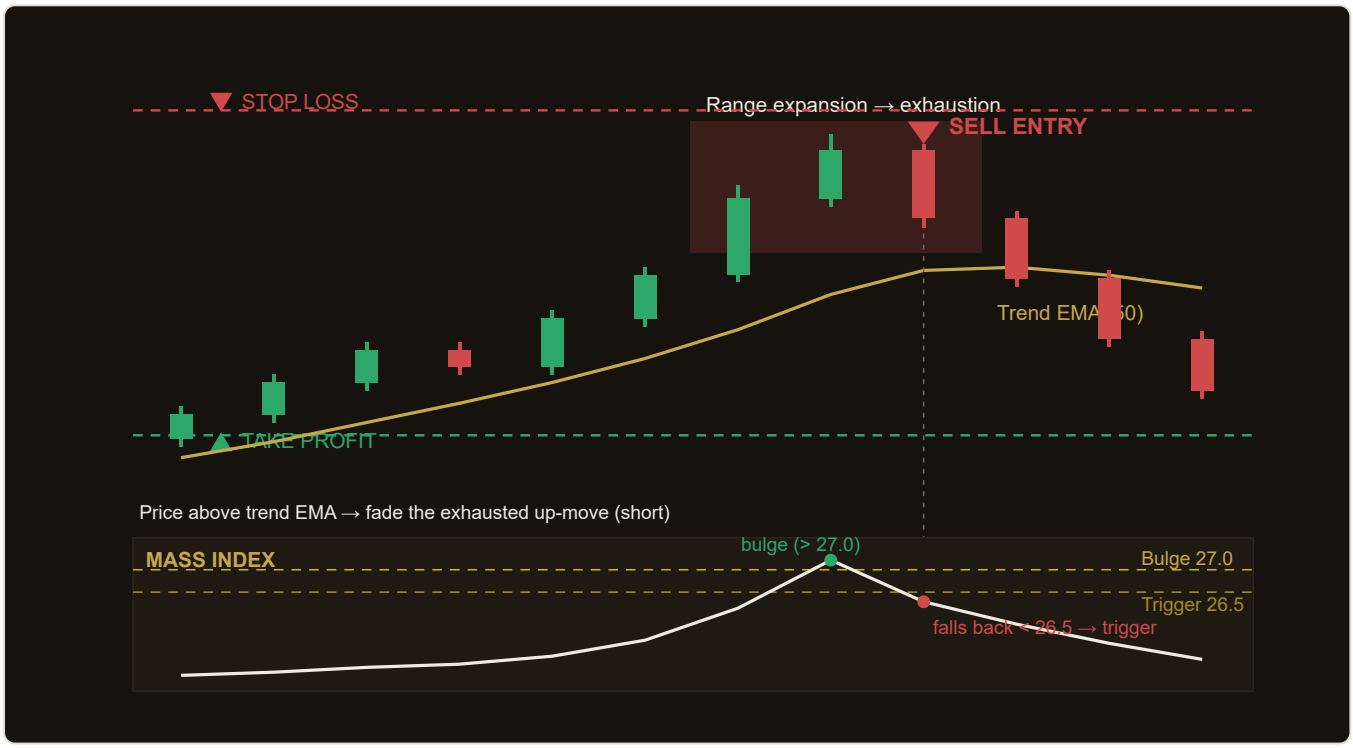
With the defaults (`AtrStopMult = 1.8`, `RewardRatio = 2.0`) each trade targets twice its risk.

5. Trade Filters

- **One position at a time** — no new order opens while a position with the same magic number is live on the symbol.
- **Spread guard** — trades are skipped when the current spread exceeds `MaxSpreadPts` (default 40 points).
- **Warm-up gate** — signals are suppressed until enough closed bars exist to compute the Mass Index, trend EMA, and ATR.
- **New-bar processing** — all logic runs once per closed bar, never intrabar.

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 illustration

Price rallies well above its trend EMA while the Mass Index bulges above 27.0 (green marker). As the range contracts, the Mass Index drops back below 26.5 (red marker) — the trigger. Because price is above its trend EMA, the EA fades the exhausted up-move with a

SELL ENTRY

, placing the stop `1.8 × ATR` above and the take-profit `1.8 × ATR × 2.0` below.

Parameters

Parameter	Default	Description
EmaPeriod	`9`	EMA period used to smooth the high-low range for the Mass Index. Range 5–20.
SumPeriod	`25`	Number of ratio values summed to form the Mass Index. Range 15–40.
BulgeLevel	`27.0`	Mass Index threshold that arms the reversal bulge. Range 25.0–30.0.
TriggerLevel	`26.5`	Fall-back threshold; when the armed Mass Index drops below this, the trade triggers. Range 24.0–29.0.
TrendEma	`50`	Trend EMA period used to select the trade side (price above → short, below → long). Range 20–150.
AtrPeriod	`14`	ATR period used to size the stop and target. Range 5–30.
AtrStopMult	`1.8`	ATR multiplier for the stop-loss distance from entry. Range 1.0–4.0.
RewardRatio	`2.0`	Reward-to-risk ratio; take-profit = stop distance × this value. Range 1.0–4.0.
MaxSpreadPts	`40`	Maximum allowed spread in points; wider spreads skip the trade. Range 5–300.
Lots	`0.10`	Trade volume in lots. Range 0.01–1.0.
Magic	`4130`	Magic number identifying this EA's positions. Range 0–9,999,999.

Recommended Settings

The strategy was designed and tuned for the **US30 (Dow Jones) index on the H1 timeframe**. The defaults provide a balanced starting point; adjust only after backtesting on your broker's data.

SUGGESTED BASELINE

- **Symbol / Timeframe:** US30, H1
- **Bulge / Trigger:** 27.0 / 26.5 — a tighter `TriggerLevel` gap fires sooner but more often; widen it to demand a clearer collapse.
- **Trend EMA:** 50 — raise it for a slower, more selective trend filter; lower it to react to shorter swings.
- **Risk:** `AtrStopMult = 1.8`, `RewardRatio = 2.0` for a 2:1 target-to-risk profile.
- **Position size:** keep `Lots` conservative relative to account equity; the EA holds one position at a time.

Tip: Because this is a counter-trend fade, it performs best in ranging or exhaustion-prone conditions. In strong, sustained trends the bulge trigger can fire against persistent momentum — a wider `TrendEma` and a larger gap between `BulgeLevel` and `TriggerLevel` help filter those cases.

Note on spread: Index CFDs such as US30 can widen sharply around news and session opens. The `MaxSpreadPts` guard protects entries, but verify the value matches your broker's typical US30 spread before going live.

How to Install on MetaTrader 5

1. Copy `MassIndexBulgeInstitutionalReversal.ex5` to your MT5 `MQL5\Experts\` folder
2. Restart MetaTrader 5 and refresh the Navigator panel
3. Drag the EA onto a US30 H1 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.