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Impulse Zone Reversion

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Mean Reversion (Supply & Demand + RSI)	H1 / H4	www.algobot.live

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Overview

Impulse Zone Reversion is a supply-and-demand Expert Advisor that pairs structural zone detection with RSI momentum confirmation. It is built on a simple institutional-footprint idea: a strong directional candle — an *impulse* — represents a sudden departure of price that leaves an imbalance, or *zone*, behind it. The EA marks that zone and then waits patiently for price to return into it, entering a mean-reverting trade only when the return is confirmed by both candle structure and a stretched RSI reading.

Rather than chasing momentum, the strategy fades it: it buys demand zones left by bullish impulses and sells supply zones left by bearish impulses. Each zone is traded at most once and is discarded the instant price closes through it, which keeps the logic objective and prevents the EA from re-entering exhausted moves. All decisions are taken once per completed bar on the primary timeframe.

How It Works

1. Zone Creation (the Impulse)

On every newly closed bar the EA measures the candle body against current volatility. The body must exceed `ImpulseAtrMult × ATR` to qualify as an impulse:

- **Bullish impulse** → carves a **demand zone** at its origin, spanning `[Low, Open]` of the impulse candle.
- **Bearish impulse** → carves a **supply zone** at its origin, spanning `[Open, High]` of the impulse candle.

Only the most recent demand zone and the most recent supply zone are retained. A fresh impulse refreshes its respective zone and resets its "used" flag.

2. Zone Invalidation

Before evaluating any signal, the EA discards stale structure. A zone is **broken** — and removed — the moment a bar closes through it:

- A demand zone is invalidated when price **closes below** its lower boundary (`Close < demandLow`).
- A supply zone is invalidated when price **closes above** its upper boundary (`Close > supplyHigh`).

3. Entry Logic

Entries are only considered when there is no open position for this EA's magic number. The just-closed bar must react against a fresh (unused) zone with confirming momentum:

> **Long (Demand Reaction)**
>
> Price dips into a fresh demand zone (`Low ≤ demandTop`), holds above it (`Close > demandLow`), prints a **bullish**
>
> bar (`Close > Open`), and RSI is depressed (`RSI ≤ RsiLong`). The EA buys the rebalance at the Ask.

> **Short (Supply Reaction)**
>
> Price pokes into a fresh supply zone (`High ≥ supplyLow`), stays below it (`Close < supplyHigh`), prints a **bearish**
>
> bar (`Close < Open`), and RSI is elevated (`RSI ≥ RsiShort`). The EA sells the rebalance at the Bid.

Once a zone produces a trade it is flagged as used and will not fire again, ensuring each imbalance is faded a single time.

4. Stop Loss & Take Profit

Risk is anchored to the zone and padded by volatility, with the target set as a fixed reward-to-risk multiple:

- **Long:** Stop Loss = `demandLow − SlAtrMult × ATR` ; risk = `Entry − SL` ; Take Profit = `Entry + TpRrMult × risk` .
- **Short:** Stop Loss = `supplyHigh + SlAtrMult × ATR` ; risk = `SL − Entry` ; Take Profit = `Entry − TpRrMult × risk` .

If the computed risk is not positive, the order is skipped. Stop and target levels are normalized to the symbol's digit precision before submission.

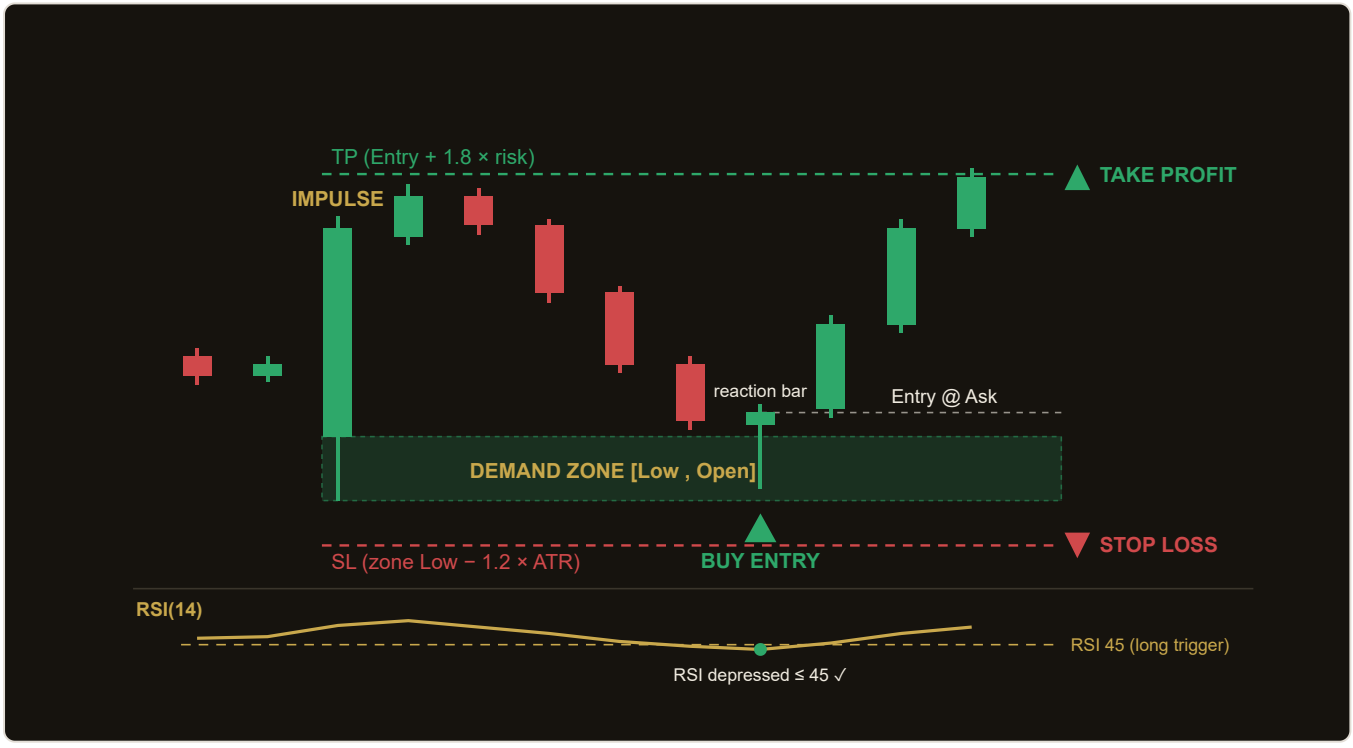
5. Execution Cadence

The EA acts only once per completed bar. A new-bar check compares the timestamp of the forming bar; when it changes, the previous bar has just closed and is processed for invalidation, signals, and zone stamping. Indicators (RSI and ATR) are read as of that just-closed bar (shift 1), keeping the MQL5 build faithful to the original C# rolling-series logic.

> **Why ATR matters twice:** ATR sets both the bar that *counts* as an impulse (via `ImpulseAtrMult`) and the protective padding behind the zone (via `SlAtrMult`). In quiet markets fewer zones form and stops sit tighter; in volatile markets the EA demands larger impulses and gives trades more room.

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
RsiPeriod	`14`	Lookback period for the RSI momentum filter (range 5–30).
RsiLong	`45.0`	Long confirmation: RSI must be at or below this value to allow a demand-zone buy (range 20–50).
RsiShort	`55.0`	Short confirmation: RSI must be at or above this value to allow a supply-zone sell (range 50–80).
AtrPeriod	`14`	Lookback period for the ATR used in impulse sizing and stop padding (range 5–30).
ImpulseAtrMult	`1.5`	A candle body must exceed this multiple of ATR to qualify as an impulse and stamp a zone (range 0.8–3.0).
SlAtrMult	`1.2`	ATR multiple used to pad the stop loss beyond the zone boundary (range 0.5–3.0).
TpRrMult	`1.8`	Take-profit reward-to-risk multiple, measured from entry against the stop distance (range 0.8–4.0).
Lots	`0.10`	Fixed order volume in lots (range 0.01–1.0).
Magic	`4117`	Magic number identifying this EA's positions so it manages only its own trades.

Recommended Settings

The defaults provide a balanced starting point. The strategy is designed for clean, trending-then-reverting instruments where impulses and pullbacks are well defined.

- **Timeframe:** H1 or H4 — large enough that impulse candles reflect genuine institutional intent rather than intrabar noise.
- **Instruments:** Major FX pairs (e.g. EURUSD, GBPUSD, USDJPY) and liquid indices with consistent volatility.
- **Impulse sensitivity:** Raise `ImpulseAtrMult` toward 2.0–2.5 for fewer, higher-quality zones; lower it toward 1.0 for more frequent signals.
- **Risk shaping:** Pair a wider `SlAtrMult` with a higher `TpRrMult` on volatile symbols; tighten both on calmer pairs.

Tip: Because each zone is faded only once and discarded on a close-through, signal frequency is naturally low. Run the EA across several symbols rather than over-loosening parameters on a single chart to manufacture trades.

Optimization note: When using the MT5 Strategy Tester, optimize `ImpulseAtrMult`, `RsiLong` / `RsiShort`, and `TpRrMult` first — they shape selectivity and the risk profile most. Always forward-test on out-of-sample data before going live.

How to Install on MetaTrader 5

1. Copy `ImpulseZoneReversion.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.