

Nested Inside Bar Breakout

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Price-Action Breakout	H1 – H4	www.algotbot.live

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Overview

Nested Inside Bar Breakout is a pure price-action Expert Advisor that trades volatility contraction. It uses **no indicators** — only raw candle structure. A “nest” of inside bars is one of the cleanest compression signatures in price action: when each new candle prints entirely inside the previous one, the market is coiling. Range is being wrung out, resting stop orders stack just beyond the mother bar’s high and low, and the next genuine expansion tends to be sharp and one-directional as those stops cascade.

The EA scans the three most recently closed bars for a *tightening* nest — a middle bar inside a wider mother bar, and an inner bar inside that middle bar — and only acts when the inner bar is meaningfully compressed relative to the mother. It then watches the currently forming bar tick-by-tick and takes the first side that trades through the mother bar’s extreme. Risk is small and defined: the protective stop sits just beyond the opposite side of the tight coil, and the take-profit is a fixed reward-to-risk multiple of that distance.

Why nested inside bars? A single inside bar shows hesitation; a *nest* of two confirms an accelerating squeeze. By requiring the inner bar to fall within a fraction of the mother’s range, the strategy filters out lazy drift and waits for a genuine coil where a stop-cascade breakout is most likely.

How It Works

1. Detecting the Nest

On every tick the EA inspects the three most recently **closed** bars (newest-last):

- **Mother bar** (shift 3) — the widest, containing bar.
- **Inside bar 1** (shift 2) — must sit fully inside the mother: `High ≤ mother.High` and `Low ≥ mother.Low`.
- **Inside bar 2** (shift 1) — must sit fully inside Inside bar 1, forming a *tightening* nest rather than a single inside bar.

If either containment test fails, no setup exists and the EA stands aside.

2. Confirming a Genuine Squeeze

Containment alone is not enough. The inner bar's range must be a fraction of the mother bar's range, controlled by `ContractionRatio`:

```
innerRange = inside2.High - inside2.Low
if (innerRange > ContractionRatio × motherRange) → reject
```

A lower ratio demands a tighter coil before the EA will arm itself, reducing false breakouts at the cost of fewer signals.

3. Entry — Intrabar Breakout

The forming bar (shift 0) is the **expansion bar**. Unlike most bar-close strategies, this EA is intentionally **intrabar**: it watches the live price and fires on the first break of the mother bar's extreme, plus a small `BufferPoints` cushion. The two sides are distinct and mirrored:

- **Long** — when `Ask ≥ mother.High + buffer`, send a market **Buy**.
- **Short** — when `Bid ≤ mother.Low - buffer`, send a market **Sell**.

4. Stop Loss & Take Profit

The protective stop is placed just beyond the opposite side of the tight coil — the nest's extreme, the tightest available structure:

- **Long:** `SL = coilLow - buffer`, where `coilLow = min(inside1.Low, inside2.Low)`.
- **Short:** `SL = coilHigh + buffer`, where `coilHigh = max(inside1.High, inside2.High)`.

The risk distance is the gap between entry and stop. If that distance is smaller than the broker's minimum stop level, it is widened to the minimum permitted. The take-profit is then a fixed multiple of risk:

risk = | entry - SL |
TP = entry ± RewardRisk × risk

Worked example (long)

Mother bar High = 1.10500, coil Low = 1.10350, BufferPoints = 15 (0.00015 on a 5-digit symbol),

RewardRisk = 2.0 .

Buy trigger = 1.10500 + 0.00015 = 1.10515 . Filled at Ask = 1.10515.

SL = 1.10350 - 0.00015 = 1.10335 → risk = 0.00180.

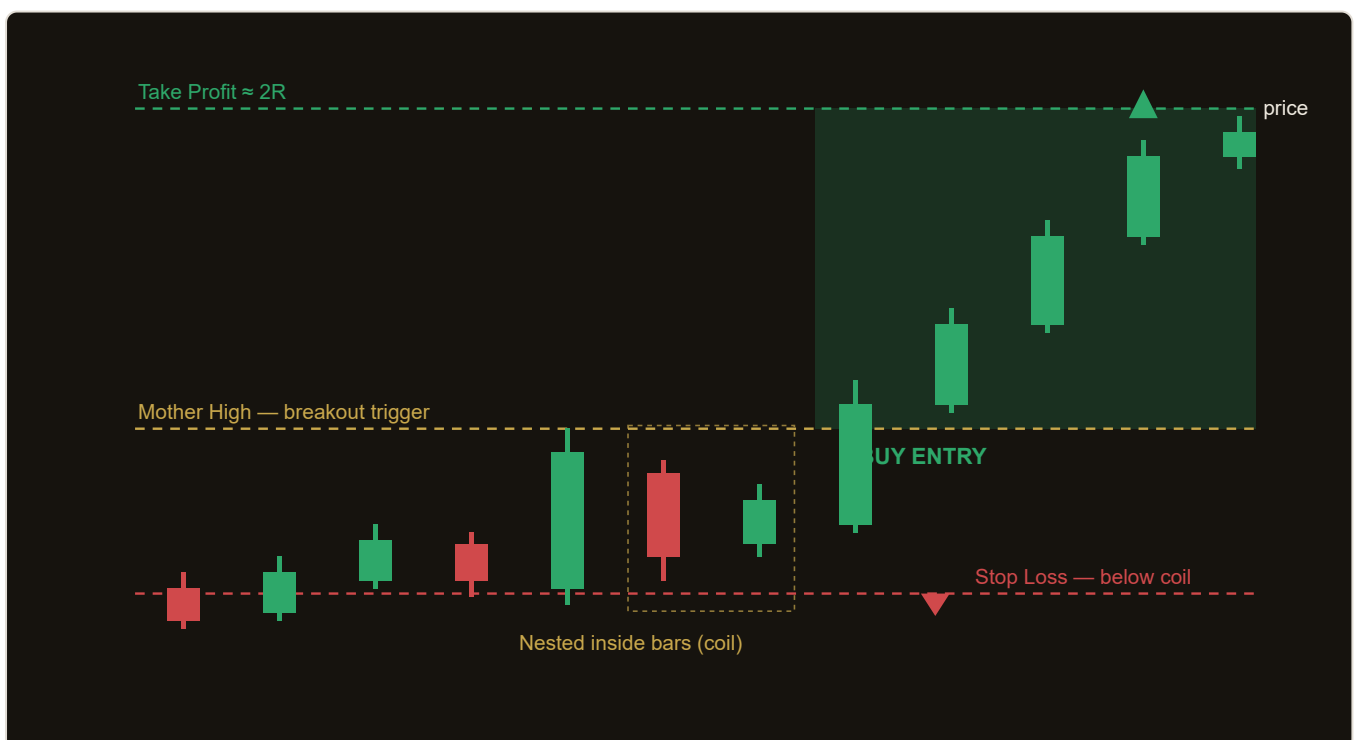
TP = 1.10515 + 2.0 × 0.00180 = 1.10875 .

5. Trade Management & Self-Expiry

- **One position per magic.** While a trade tagged with the EA's magic number is open, no new entry is taken — the SL/TP bracket manages the exit.
- **One attempt per expansion bar.** The forming bar's timestamp is recorded on entry, so the EA will not re-fire intrabar after a stop-out or target on the same bar.
- **Self-expiring setup.** The coil only exists while its three bars occupy shifts 1–3. Once the expansion bar closes, the structure shifts and the setup is gone — there are no lingering pending orders to manage.

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.



Parameters

Parameter	Default	Description
ContractionRatio	0.80	Maximum inner inside-bar range as a fraction of the mother bar's range. Lower values demand a tighter coil. Range 0.40–1.00, step 0.05.
BufferPoints	15	Break / stop buffer in points beyond the mother bar extreme (entry trigger) and the coil extreme (stop loss). Range 0–80, step 5.
RewardRisk	2.0	Take-profit reward-to-risk multiple. The TP distance equals this multiple of the entry-to-stop risk. Range 1.0–5.0, step 0.5.
Lots	0.10	Fixed trade volume in lots, normalised to the symbol's volume step and clamped to its min/max. Range 0.01–1.0, step 0.05.
Magic	940310	Magic number identifying this EA's trades. Enforces one position per magic and lets the EA run alongside others on the same account.

Recommended Settings

The strategy is symbol-agnostic, but performs best where clean inside-bar structure is common and spreads are tight.

- **Timeframe:** H1 to H4. Higher timeframes produce cleaner, more reliable nests; lower timeframes generate more (and noisier) signals.
- **Symbols:** Major FX pairs (EURUSD, GBPUSD, USDJPY) and liquid indices, where intrabar breaks of structure are meaningful.
- **ContractionRatio:** Start at 0.80. Tighten toward 0.55–0.65 for fewer, higher-conviction squeezes; loosen toward 0.90 for more frequent signals.
- **BufferPoints:** Size relative to the symbol's typical spread and noise. Too small and normal spread flicker triggers premature entries; too large and you give back edge.
- **RewardRisk:** 2.0 is a balanced default. Lower (1.0–1.5) raises hit-rate but trims expectancy; higher (3.0+) needs strong follow-through to pay off.

Tip: Because entries are intrabar, the EA reacts to live Bid/Ask. Test on quality tick data ("Every tick based on real ticks" in the Strategy Tester) so the simulated breakouts and buffers reflect realistic fills.

Intrabar behaviour: This EA does not wait for bar close to enter — it fires the moment price pierces the mother extreme. This is deliberate (it captures the stop-cascade early) but means the entry candle is still forming. Ensure your buffer comfortably exceeds normal spread so the trigger represents a real expansion, not a momentary tick.

How to Install on MetaTrader 5

- 1 Copy `NestedInsideBarBreakout.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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