

Engulfing Displacement Hedge

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Price-Action Breakout + Hedge

TIMEFRAME

M5 – M15

WEBSITE

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

The **Engulfing Displacement Hedge** is a pure price-action Expert Advisor that trades break-of-structure momentum and protects every position with a built-in failed-breakout hedge. It uses **no indicators of any kind** — no moving averages, RSI, ATR or VWAP. Every decision is read directly from the raw open/high/low/close of the chart's own timeframe.

An entry is taken only when three independent price-action conditions line up on a single, freshly closed candle: a **break of structure** (price closes beyond a recent swing shelf), an **engulfing pattern** (a decisive momentum candle that swallows the prior bar's body), and a **displacement / Fair Value Gap** (a 3-bar imbalance that signals an institutional thrust). A momentum filter additionally rejects any signal candle whose body is too small relative to recent ranges.

Because real breakouts often fail, the strategy's distinctive layer is its **hedge**. If price reverses far enough back through an open primary trade, the EA opens an opposite-side position that profits from the snap-back, taking the basket close to market-neutral. Once the primary trade closes on its own stop or target, any surviving hedge is flattened so the account always returns flat — one clean trade lifecycle at a time.

At a glance — Pure OHLC price action · break of structure + engulfing + FVG + momentum · structure-based stops with a reward-to-risk target · an automatic protective hedge against failed breakouts. Designed for liquid, breakout-prone instruments such as **GBPUSD** or an index like **US30** on **M5–M15**.

How It Works

The Entry Setup

On every newly closed candle (and only if the current spread is within `MaxSpreadPoints`), the EA inspects the last few bars. The just-closed candle is the *signal bar*. All three of the following must agree, in the same direction, before a trade is taken:

1. **Break of structure (BOS)**. The signal bar must *close* beyond a recent swing shelf — above the highest high (resistance) for longs, or below the lowest low (support) for shorts — measured over the last `StructureLookback` bars. This confirms structure has actually been taken out.
2. **Engulfing pattern**. The signal bar must fully engulf the prior bar's body in the breakout direction: a bullish engulfing candle for longs, a bearish engulfing candle for shorts. This filters out slow drifts through a level in favour of a real momentum candle.
3. **Displacement / Fair Value Gap**. A 3-bar imbalance must confirm the thrust. For a long, the high of the bar three back must sit below the low of the signal bar (an unfilled gap left on the way up); shorts mirror this. This check can be switched off with `RequireFvg`.

On top of those, a **momentum filter** requires the signal bar's body to exceed `MomentumBodyFactor` × the average bar range (measured over `AvgRangePeriod` bars). Only decisive candles are allowed to trade.

Worked example — a long signal

A bullish candle closes above the highest high of the last 20 bars (break of structure), its body fully engulfs the previous candle's body (engulfing), the high of the bar three back lies below this candle's low (bullish Fair Value Gap), and the body is larger than $1.0 \times$ the recent average range (momentum). All four agree → the EA buys at the ask. A short is the exact mirror: a bearish engulfing candle closing below the recent low, with a bearish FVG above it.

Stops & Targets

Risk is defined by structure, not by an indicator:

- **Stop-loss** sits just beyond the signal bar's far extreme — below the engulfing candle's low for a long, above its high for a short — plus a cushion of `StopBufferPoints`. This is the level the breakout must hold to remain valid. The distance is floored at the broker's minimum stop level.
- **Take-profit** is placed at `RewardRisk` × the stop distance. With the default 1.8, a trade risking 100 points targets 180 points.

The Hedge

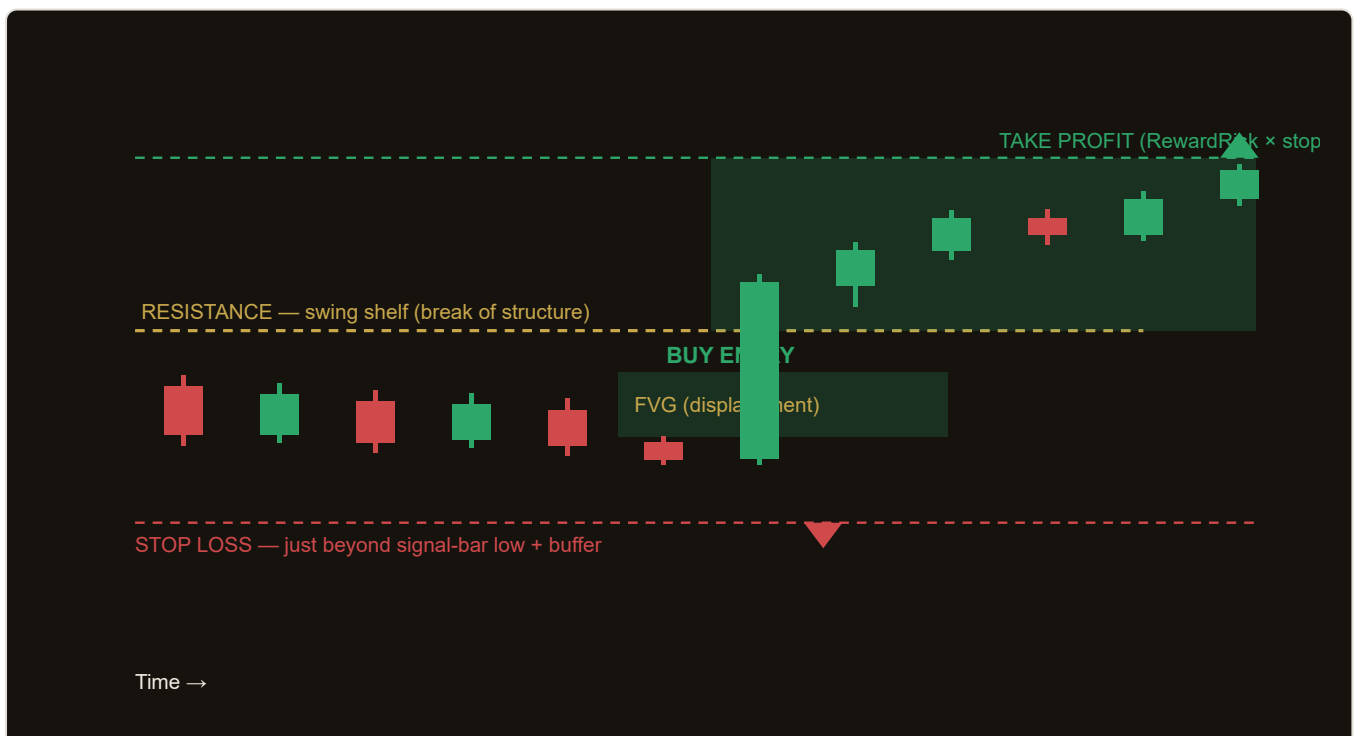
This is the layer that separates the strategy from a plain breakout EA. Breakouts fail, and when they do the hedge caps the damage and harvests the reversal:

- While a primary trade is open, the EA watches price *every tick*. If price moves `HedgeTriggerPoints` against the primary (a long losing as price falls, a short losing as price rises), the breakout is judged to be failing.
- The EA then opens an **opposite** position of `HedgeLots` — the hedge — tagged with its own magic number (`Magic + 1`). The hedge carries a fixed take-profit of `HedgeRewardPoints` and a fixed stop of `HedgeStopPoints`.
- Once hedged, the basket is close to market-neutral: the primary's drawdown is offset while the hedge banks the snap-back. Only **one** hedge is opened per trade lifecycle.
- When the primary finally closes on its own stop or target, any surviving hedge is immediately flattened, so the account always returns flat before the next signal is sought.

Hedging account required. This EA holds opposite positions on the same symbol at the same time. It must run on an MT5 account whose position accounting is set to **Hedging** (not Netting). On a netting account the hedge would simply close or reduce the primary instead of running alongside it.

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

Every input below mirrors the EA's `DescribeParameters()` definition. Defaults are tuned for a liquid breakout instrument on M5–M15; ranges show the values the optimiser is allowed to explore.

Parameter	Default	Description
StructureLookback	20	Swing window (bars) used to define the support / resistance shelf that the signal bar must break. Range 8–60, step 1.
AvgRangePeriod	14	Window of bars for the average-range yardstick used by the momentum-body filter. Range 5–40, step 1.
MomentumBodyFactor	1.0	The signal bar's body must exceed this multiple of the average range to qualify as a momentum candle. Range 0.3–3.0, step 0.1.
RequireFvg	1	Require a 3-bar Fair Value Gap (displacement) to confirm the thrust. 1 = on, 0 = off. Range 0–1, step 1.
StopBufferPoints	50	Extra points placed beyond the signal bar's extreme when setting the protective stop. Range 0–500, step 5.
RewardRisk	1.8	Take-profit distance as a multiple of the stop distance (reward : risk). Range 0.5–5.0, step 0.1.
HedgeTriggerPoints	200	Adverse excursion (points) against the open primary that triggers the protective hedge. Range 20–2000, step 10.
HedgeRewardPoints	300	Hedge take-profit distance (points) — banks the reversal of a failed breakout. Range 20–3000, step 10.
HedgeStopPoints	400	Hedge stop-loss distance (points) — caps the hedge if the breakout resumes. Range 20–5000, step 10.
MaxSpreadPoints	80	Skip new entries while the current spread (points) is wider than this. Range 5–400, step 5.
HedgeLots	0.10	Hedge volume. Equal to the primary lot for a full, market-neutral hedge; smaller for a partial hedge. Range 0.01–1.0, step 0.01.
Lots	0.10	Primary trade volume, normalised to the symbol's volume step and limits. Range 0.01–1.0, step 0.05.
Magic	8423	Magic number identifying the EA's primary trades. Hedge legs are tagged separately with <code>Magic + 1</code> . Range 0–9,999,999, step 1.

Recommended Settings

The defaults are a sensible starting point. The notes below help you adapt them to your instrument, broker and risk appetite.

INSTRUMENT & TIMEFRAME

- **Symbol:** a liquid, breakout-prone market such as **GBPUSD**, or an index like **US30**. Avoid thin, choppy symbols where false breakouts dominate.
- **Timeframe: M5 to M15.** The EA always uses the chart's own timeframe — it never reads a hardcoded higher timeframe — so simply attach it to the timeframe you wish to trade.
- **Account type:** must be **Hedging** so the protective hedge can run alongside the primary.

TUNING NOTES

- **Selectivity:** raise `MomentumBodyFactor` or `StructureLookback` for fewer, higher-conviction breakouts; lower them to trade more often.
- **FVG filter:** leaving `RequireFvg` on (1) demands a clean displacement and reduces false signals; switch it off (0) for more entries on instruments that rarely gap.
- **Hedge balance:** set `HedgeLots` equal to `Lots` for a near market-neutral basket. A tighter `HedgeTriggerPoints` hedges sooner (more protection, more noise); a wider one waits for a clearer failure.
- **Spread guard:** keep `MaxSpreadPoints` realistic for your broker so the EA does not enter during costly, illiquid moments.

Tip — Always validate any parameter set in the MT5 Strategy Tester on your own broker's data and spread before committing real capital. Then forward-test on a demo account to confirm the hedge behaves as expected under live spread and slippage.

How to Install on MetaTrader 5

- 1 Copy `EngulfingDisplacementHedge.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

Before going live — confirm your account is set to **Hedging**, that *Allow Algo Trading* is enabled in *Tools* → *Options* → *Expert Advisors*, and that the smiley face in the chart's top-right corner is active. The EA only seeks a new entry on a freshly closed bar, so allow a full candle to form after attaching it.

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.