

Engulfing Pivot Hedge

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Price Action — Reversal & Breakout (Hedged)

TIMEFRAME

M15 – H1

WEBSITE

www.algotbot.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

Engulfing Pivot Hedge is a pure price-action Expert Advisor that uses *no technical indicators*. Instead of moving averages or oscillators, it constructs a rolling pivot framework — a central pivot **P** with one resistance level **R1** and one support level **S1** — directly from the most recent closed-bar window. Around that framework it trades two complementary edges from a single chart.

The first edge is a **reversal**: when a bullish engulfing or bullish pin-bar rejects the support zone, the EA goes long; when a bearish engulfing or bearish pin-bar rejects the resistance zone, it goes short — both with tight, scalp-style targets. The second edge is a **breakout**: a strong-bodied candle that closes decisively beyond **R1** (long) or below **S1** (short) is treated as an expansion and ridden in the breakout direction.

To cap drawdown when a reversal entry fails into a developing trend, the EA can deploy an automatic **hedge leg** on the opposite side under a separate magic number. Stop-loss, take-profit, and the hedge trigger are all sized from a manual N-bar high-low *range proxy*, keeping the system fully self-contained and free of indicator handles.

How It Works

1. The Rolling Pivot Framework

On each newly-closed bar the EA scans the last `PivotLookback` closed bars to find the window high (`hh`) and low (`ll`). It then derives a classic floor-trader pivot set from those extremes and the previous bar's close:

```
P = (hh + ll + close[1]) / 3
R1 = 2 * P - ll      (resistance)
S1 = 2 * P - hh      (support)
```

These three levels define where reversals and breakouts are measured. Because they are rebuilt every bar from a rolling window, the framework adapts continuously to recent price structure without any lagging indicator.

2. The Range Proxy

All distances in the strategy — the zone width, the stop, the target, and the hedge trigger — are expressed as multiples of a single volatility measure called the **range proxy**. It is simply the average high-to-low range over the last `RangePeriod` bars:

```
range = average( high[i] - low[i] )   for i = 1 .. RangePeriod
```

This is a deliberate, hand-rolled substitute for an ATR-style indicator, so the engine never calls any `Indicators.*` helper. If the range computes to zero or less, the EA stands aside for that bar.

3. Entry Logic — Reversal

A reversal entry requires a qualifying candlestick pattern *and* proximity to the right pivot zone. The proximity test uses a zone width of `ZoneFrac × range`:

- **Near support** — the prior bar's low sits within the zone of either `S1` or `P`.
- **Near resistance** — the prior bar's high sits within the zone of either `R1` or `P`.

Combined with the pattern test:

- **Long (bull reversal)** — a *bullish engulfing* or *bullish pin-bar* that rejects the support zone.
- **Short (bear reversal)** — a *bearish engulfing* or *bearish pin-bar* that rejects the resistance zone.

A pin-bar qualifies when its rejection wick is at least twice the body, the opposite wick is no larger than the body, and the close falls in the rejection-favouring 60% of the bar's range. An engulfing pattern requires the signal bar to fully envelop the prior bar's body in the opposite direction.

4. Entry Logic — Breakout

The breakout edge looks for momentum rather than rejection. A candle is "strong" when its body is at least half of its total range:

- **Long breakout** — a strong bullish bar closes above $R1 + zone$.
- **Short breakout** — a strong bearish bar closes below $S1 - zone$.

Reversal and breakout are evaluated together; whichever fires first on a given bar opens the primary trade.

Note — one trade, one bar. The EA holds at most one primary position at a time (matched by symbol and magic) and only evaluates entries on a freshly-closed bar. Hedge management, however, runs on every tick so an adverse move is caught promptly rather than waiting for the next bar.

5. The Hedge Leg

Once a primary trade is open, the EA monitors how far price has run *against* it. If the adverse excursion reaches $HedgeTrigger \times range$, a single opposite-side hedge is opened under a separate magic number ($Magic + 1$) with volume $Lots \times HedgeMult$:

- For a long primary, the hedge is a **sell** opened when $open - bid \geq trigger$.
- For a short primary, the hedge is a **buy** opened when $ask - open \geq trigger$.

Only one hedge is ever active at a time. The hedge caps drawdown when a reversal entry is overwhelmed by a developing trend, converting an open loss into a more controlled, bounded position.

6. Stops & Targets

Every trade — primary or hedge — is sent with a fixed protective stop and target measured from the range proxy at entry:

Stop Loss = $SlRangeMult \times range$
Take Profit = $TpRangeMult \times range$

With the defaults ($SlRangeMult = 1.00$, $TpRangeMult = 1.50$), targets sit at 1.5× the stop distance, giving a reward-to-risk ratio of roughly 1.5 : 1 on the primary leg.

Worked example — bullish reversal

The range proxy reads 30 pips. Price drops into the $S1$ support zone and the last closed bar prints a bullish engulfing whose low is within $0.50 \times 30 = 15$ pips of $S1$. The EA buys 0.10 lots at the ask, places the stop 30 pips below (1.00×30) and the target 45 pips above (1.50×30). If price instead falls 30 pips against the entry (1.00×30), a 0.10-lot sell hedge opens to cap the drawdown.

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. It depicts the **bullish reversal** edge: price descends into the support zone, a bullish engulfing rejects it, and the trade runs to its take-profit while the stop sits just below the zone.



Illustrative example only. Actual market behaviour varies.

Parameters

Parameter	Default	Description
PivotLookback	20	Number of closed bars used to build the rolling pivot window (high/low extremes). Range 10–60, step 5.
RangePeriod	14	Averaging period for the high-low range proxy that sizes all distances. Range 5–30, step 1.
ZoneFrac	0.50	Width of the pivot proximity / breakout buffer zone, as a fraction of the range proxy. Range 0.10–2.0, step 0.10.
SlRangeMult	1.00	Stop-loss distance as a multiple of the range proxy (SL = mult × range). Range 0.30–3.0, step 0.10.
TpRangeMult	1.50	Take-profit distance as a multiple of the range proxy (TP = mult × range). Range 0.50–5.0, step 0.10.
HedgeTrigger	1.00	Adverse excursion, as a multiple of the range proxy, that triggers the hedge leg. Range 0.30–3.0, step 0.10.
HedgeMult	1.00	Volume multiplier applied to the hedge leg relative to the primary lot size. Range 0.50–2.0, step 0.10.
Lots	0.10	Primary trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	770700	Magic number for the primary leg. The hedge leg uses <code>Magic + 1</code> automatically.

Recommended Settings

The defaults are tuned for liquid FX majors on intraday timeframes, where pivot rejections and clean engulfing patterns are most reliable. Start with the defaults and adjust gradually after backtesting on your broker's data.

- **Symbols** — major FX pairs with tight spreads (e.g. EUR/USD, GBP/USD, USD/JPY).
- **Timeframe** — M15 to H1. Lower timeframes increase signal count but also spread/noise sensitivity.
- **Risk per trade** — keep `Lots` small relative to account equity; the hedge can briefly hold two opposing positions.
- **Reward / risk** — the default `TpRangeMult / SlRangeMult = 1.5` favours quicker exits; raise `TpRangeMult` for trend/breakout-heavy markets.

Tip. The hedge is a drawdown brake, not a profit engine. If you prefer a simpler single-leg system, set `HedgeTrigger` near its maximum so the hedge rarely fires — or test with `HedgeMult` at 0.50 to keep the hedge smaller than the primary.

How to Install on MetaTrader 5

- 1 Copy `EngulfingPivotHedge.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. Always run `EngulfingPivotHedge.ex5` in the Strategy Tester and on a demo account first. Confirm that your broker permits hedging (multiple opposite positions on one symbol), since the hedge leg depends on 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.