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Kagi Line Reversal

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend Reversal (Stop-and-Reverse)	H1 – H4	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

Kagi Line Reversal is a trend-reversal Expert Advisor built on the classic Japanese *Kagi chart* — an alternative charting method that, like Renko, Point-&-Figure and Three-Line-Break, deliberately discards time and small price noise. Instead of plotting one bar per period, the Kagi line simply keeps extending in its current direction as price prints new extremes, and it only **reverses** once price retraces by a defined threshold.

In this EA that threshold is not a fixed pip amount but an **ATR-scaled reversal amount**, so the chart automatically adapts to each instrument's volatility. Every reversal leaves behind a turning point — a **shoulder** (local peak) when an up-line turns down, or a **waist** (local trough) when a down-line turns up. The tradable event is the Kagi line's **thickness flip**: when a rising line clears the prior shoulder it turns thick (*yang* → BUY); when a falling line breaks the prior waist it turns thin (*yin* → SELL). Because yang and yin strictly alternate, the EA operates as a clean **stop-and-reverse** engine.

What makes it distinct: Kagi's shoulder/waist thickness rule has no counterpart among the Renko, Point-&-Figure or Three-Line-Break entries in the library. It reacts to *structural* breaks of the last supply/demand shelf rather than to a fixed brick or box count.

How It Works

1. Building the Kagi line

On each freshly closed bar the EA measures volatility with the Average True Range over `AtrPeriod` bars and derives a reversal threshold:

```
reversal amount = ReversalMult × ATR(AtrPeriod)
```

A seed close first establishes an initial direction. Thereafter the line behaves as a simple state machine driven by the closing price `c`:

- While the line is **rising**: a new higher close extends the up-line (the tip advances). A close that falls back by the full `reversal` amount ends the up-line — the peak is stamped as a **shoulder** and the line turns down.
- While the line is **falling**: a new lower close extends the down-line. A close that rallies by the full `reversal` amount ends the down-line — the trough is stamped as a **waist** and the line turns up.

2. Entry logic — the thickness flip

Direction alone does not trade. The signal is the thickness change that occurs when the line breaks the most recent opposing turning point:

- **BUY (yang):** the rising line's tip pushes *above* the prior shoulder. Demand has overcome the last supply shelf, so the line turns thin→thick and a long is opened.
- **SELL (yin):** the falling line's tip drops *below* the prior waist. Supply has broken the last demand shelf, so the line turns thick→thin and a short is opened.

Thickness strictly alternates (a new yang cannot immediately follow another yang), which prevents repeated same-direction signals.

3. Stop-and-reverse position management

The EA holds at most one position at a time. A fresh *yang* first closes any open short, then opens a long; a fresh *yin* first closes any open long, then opens a short. If the account is already aligned with the new signal, no duplicate order is sent.

4. Exits — protective stop & target

Both stop loss and take profit are ATR multiples anchored at the fill price, so they scale with the same volatility that governs the reversal amount:

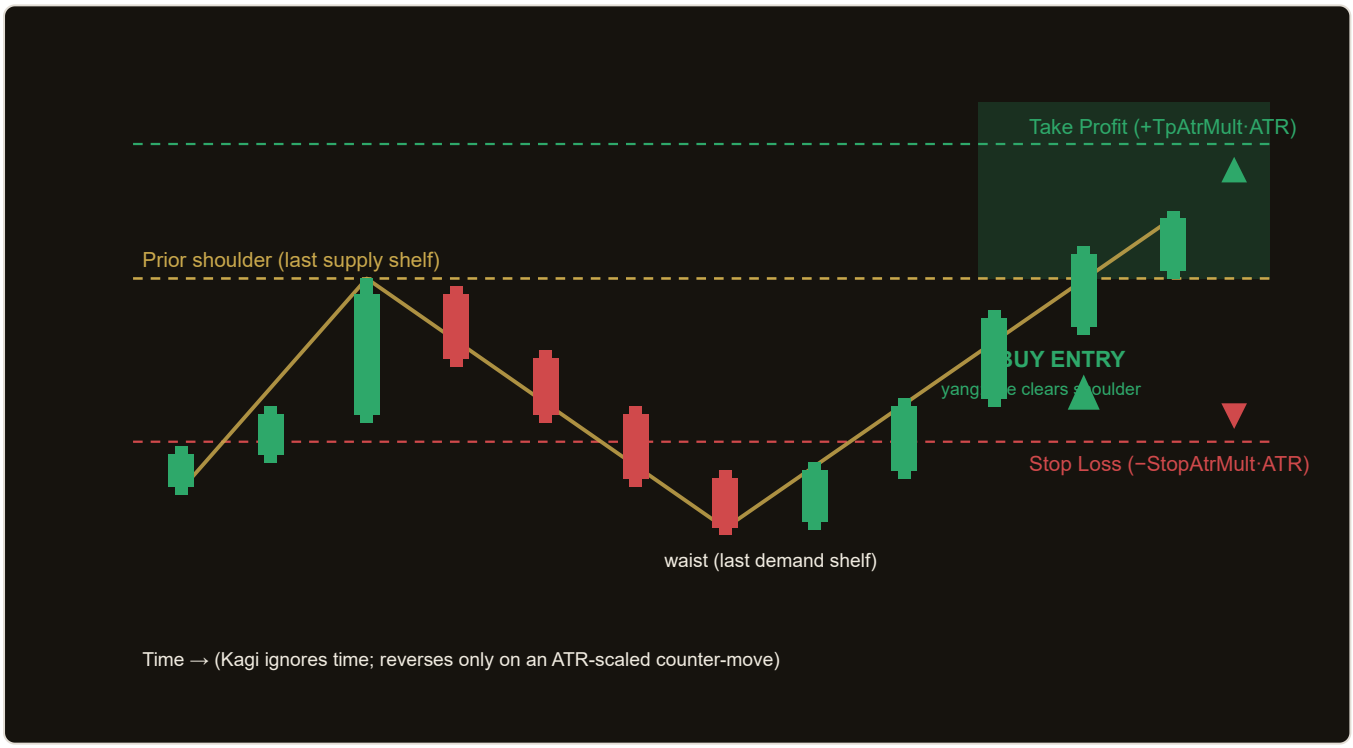
```
Long:   SL = entry − StopAtrMult × ATR      TP = entry + TpAtrMult × ATR
Short:  SL = entry + StopAtrMult × ATR      TP = entry − TpAtrMult × ATR
```

A position can therefore be closed three ways: it reaches its take profit, it is stopped out, or the opposite thickness flip reverses it before either level is hit.

> **Bar-close driven:** all Kagi logic runs once per completed bar (the still-forming bar is ignored). This keeps signals stable and avoids intra-bar repainting. A full ATR window plus one bar of history is required before the first signal can fire.

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
ReversalMult	`1.0`	Kagi reversal amount as a multiple of ATR (`reversal = ReversalMult × ATR`). Larger values produce fewer, bigger swings. Range 0.3–4.0, step 0.1.
AtrPeriod	`14`	ATR lookback that both sizes the reversal amount and the stop/target distances. Range 5–50, step 1.
StopAtrMult	`2.5`	Protective stop-loss distance, in ATRs, measured from the entry price. Range 0.5–6.0, step 0.25.
TpAtrMult	`4.0`	Take-profit distance, in ATRs, measured from the entry price. Range 0.5–10.0, step 0.25.
Lots	`0.10`	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	`7413`	Magic number identifying this EA's positions so it manages only its own orders.

Recommended Settings

Kagi charts favour instruments and timeframes that trend cleanly and produce well-defined swings. As a starting point:

- **Symbols:** major FX pairs (EURUSD, GBPUSD, USDJPY) and liquid indices/metals with sustained directional moves.
- **Timeframe:** H1 to H4. Higher timeframes yield fewer but more reliable shoulder/waist breaks.
- **ReversalMult:** 1.0 as a balanced default. Increase toward 1.5–2.0 to filter noise and trade only major reversals; decrease toward 0.5 for a more responsive line on quieter instruments.
- **Risk/reward:** the default `StopAtrMult 2.5` / `TpAtrMult 4.0` gives a ~1:1.6 reward-to-risk profile while leaving room for the stop-and-reverse to exit early.

Example configuration — EURUSD H1

ReversalMult = 1.0, AtrPeriod = 14, StopAtrMult = 2.5, TpAtrMult = 4.0, Lots = 0.10. The EA seeds its direction, then trades each thickness flip as a stop-and-reverse, with ATR-scaled protective levels anchored at every fill.

> **Tip:** because the reversal amount, stop and target all scale from the same ATR, tuning `AtrPeriod` shifts the entire character of the system at once. Adjust it before fine-tuning the individual multipliers, and always re-run a backtest after any change.

How to Install on MetaTrader 5

1. Copy `KagiLineReversal.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.