

Inverse Fisher Trend Pullback

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend-Following Pullback	H1 / H4	www.algobot.live

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Overview

Inverse Fisher Trend Pullback is a with-trend pullback Expert Advisor. It never fights the dominant move — instead it waits for a temporary dip inside an uptrend (or a temporary rally inside a downtrend), then rejoins the trend the moment that pullback exhausts and price turns back the original way.

The timing engine is Ehlers' **Inverse Fisher Transform (IFT)** applied to the RSI. The Inverse Fisher Transform, $IFT(x) = \tanh(x) = (e^{2x} - 1) / (e^{2x} + 1)$, squashes a bounded input toward ± 1 : small inputs stay near zero, while stretched inputs snap hard to the rails. Feeding it a scaled RSI turns a soft, laggy oscillator into a crisp, bimodal signal that sits quietly through chop and prints a sharp, unambiguous turn the instant a stretched move rolls over. That sharpness is the whole point — it lets the EA time the *end* of a pullback pocket rather than guessing somewhere inside a mushy RSI band.

Direction is decided by a separate slow trend filter — an EMA and its slope — so entries are only ever taken in the direction of the prevailing trend. All risk is measured in ATR units, which makes the logic symbol- and timeframe-agnostic.

Core idea: The strongest, cleanest edge in a trending market is buying finished dips and selling finished rips. The Inverse Fisher Transform's saturation geometry marks the exact bar a pullback exhausts far more decisively than a raw oscillator, so entries land at the turn — not early into the pullback, and not late after it has already run.

How It Works

The Inverse Fisher Transform of the RSI

On every closed bar the EA rebuilds a single, bounded oscillator value from four steps:

1. `r` = RSI(RsiPeriod) on closes
2. `v1` = $0.1 * (r - 50)$ -> roughly `[-5, +5]`, centred on the 50 midline
3. `v2` = WMA(`v1`, SmoothPeriod) -> linear-weighted smoothing (newest = heaviest)
4. `ift` = $\tanh(v2)$ in `(-1, +1)` -> the Inverse Fisher signal

Step 2 recentres the RSI on zero and rescales it. Step 3 is the classic Ehlers linear-weighted pre-filter (the newest reading carries the heaviest weight) that removes jitter without adding much lag. Step 4 is the transform itself, which compresses the result into the range `(-1, +1)`. A reading below `-SignalLevel` marks an **oversold pocket**; a reading above `+SignalLevel` marks an **overbought pocket**.

Trend Regime (direction filter)

Direction is decided by the slow trend EMA and its slope — never by the oscillator:

```
TrendEma = EMA(TrendPeriod)
slope    = TrendEma[now] - TrendEma[now - SlopeLookback]

UPTREND  : close > TrendEma AND slope > 0
DOWNTREND : close < TrendEma AND slope < 0
```

Requiring both a price-versus-EMA position *and* a positive (or negative) slope keeps the EA out of flat, directionless markets where the EMA drifts sideways.

Entry Logic (the "pocket-exit cross")

An entry fires when the pullback is finishing — price is turning back in the trend direction and the IFT is crossing back out of its saturated pocket:

- **Long:** `UPTREND` and `ift` crosses **up** through `-SignalLevel` (previous $\leq -L$, now $> -L$) — a finished dip inside an uptrend.
- **Short:** `DOWNTREND` and `ift` crosses **down** through `+SignalLevel` (previous $\geq +L$, now $< +L$) — a finished rip inside a downtrend.

Exit Logic

Every position is bracketed by an ATR-based hard stop and target. In addition, the EA takes an early profit when momentum reaches the far rail and rolls over — a natural exhaustion exit:

- **Hard stop / target:** $SL = entry \mp AtrMultSl \times ATR$, $TP = entry \pm AtrMultTp \times ATR$.
- **Early exit (long):** close if `ift` crosses **down** through `+SignalLevel` (the far, overbought rail rolls over).
- **Early exit (short):** close if `ift` crosses **up** through `-SignalLevel` (the far, oversold rail rolls over).

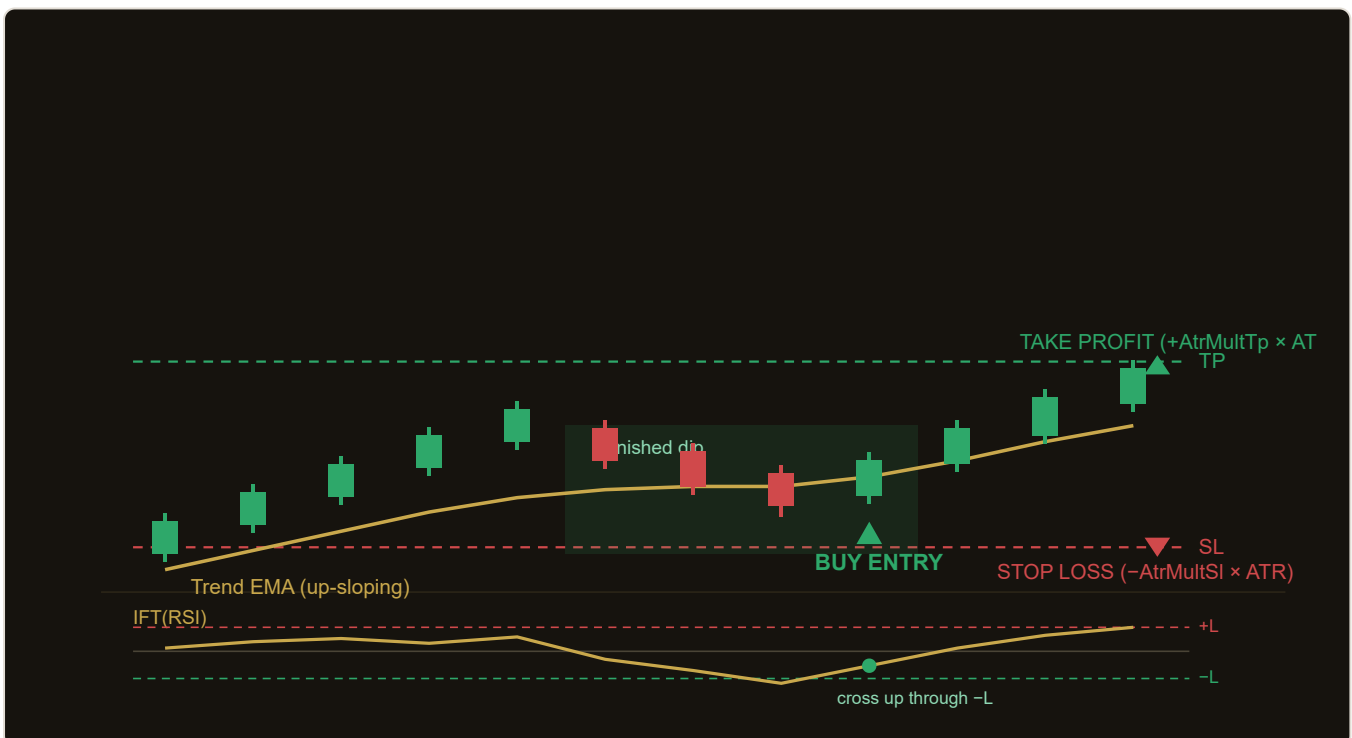
One position per magic number. While a trade is open the EA only manages it (checking for the far-rail roll-over exit) and does not stack new entries. Trades act strictly once per newly-closed bar, so signals are evaluated on confirmed data rather than an unfinished candle.

Trade Filters

- **Spread guard:** new entries are skipped when the current spread exceeds `MaxSpreadPoints` .
- **Warm-up:** the EA waits until it has enough closed bars for the RSI, the smoothing window, the trend EMA plus its slope lookback, and the ATR before it evaluates any signal.
- **Valid ATR:** if the ATR reads zero or negative (bad data), no order is sent.

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	RSI lookback fed into the Inverse Fisher Transform. Range 5–30, step 1.
SmoothPeriod	9	Linear-weighted (WMA) smoothing of the scaled RSI applied before the transform. Range 3–20, step 1.
SignalLevel	0.50	Saturation threshold on the IFT — an <code> ift </code> beyond this marks a stretched pocket and defines the entry/exit cross levels. Range 0.20–0.85, step 0.05.
TrendPeriod	100	Slow trend EMA period. Trades are only taken in its direction. Range 30–300, step 10.
SlopeLookback	5	Number of bars used to measure the trend EMA's slope (regime confirmation). Range 2–20, step 1.
AtrPeriod	14	ATR period used for stop-loss and take-profit distances. Range 5–40, step 1.
AtrMultSl	1.80	Stop-loss distance in ATR units. Range 0.50–5.00, step 0.10.
AtrMultTp	3.00	Take-profit distance in ATR units. Range 0.50–8.00, step 0.10.
MaxSpreadPoints	30	Skip new entries if the current spread (in points) is wider than this. Range 1–200, step 1.
Lots	0.10	Order volume in lots. Range 0.01–1.00, step 0.05.
Magic	20713	Magic number identifying this EA's positions. Range 0–9,999,999, step 1.

Default risk shape: with `AtrMultSl = 1.80` and `AtrMultTp = 3.00`, the built-in reward-to-risk ratio is roughly **1.67 : 1**. Because all distances are measured in ATRs, the same settings adapt automatically as volatility rises or falls across symbols and timeframes.

Recommended Settings

This EA is designed for trending markets and a swing-trading cadence. A sensible starting point:

- **Symbol:** a liquid, trend-prone major such as **EURUSD** or **GBPUSD**.
- **Timeframe:** **H1** or **H4** — enough structure for clean pullbacks without excessive noise.
- **Defaults:** the shipped parameters (RSI 14, smoothing 9, signal level 0.50, trend EMA 100) are a balanced baseline.

Tuning notes

- Raise `SignalLevel` (e.g. 0.60–0.70) to demand deeper, more exhausted pullbacks — fewer but higher-conviction entries.
- Lower `SignalLevel` (e.g. 0.30–0.40) for more frequent signals in strongly trending, shallow-pullback conditions.
- Increase `TrendPeriod` and/or `SlopeLookback` to filter for only the most durable trends; decrease them to react to shorter swings.
- Widen `AtrMultSl` in choppy symbols to avoid being stopped by normal noise; adjust `AtrMultTp` to match how far the instrument typically runs.

Always backtest first. Optimise parameters on the specific symbol and timeframe you intend to trade, then forward-test on a demo account before committing real capital. The best defaults for one instrument are rarely optimal for another.

How to Install on MetaTrader 5

- 1 Copy `InverseFisherTrendPullback.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

Tip: To edit or recompile the source, place `InverseFisherTrendPullback.mq5` in the same `MQL5\Experts\` folder and compile it with MetaEditor (F7). Confirm the smiley-face icon shows on the chart and that "Algo Trading" is green before expecting live signals.

Risk Warning

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