

Thrust Decay Reversal

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Reversal (Momentum Exhaustion)

TIMEFRAME

M15 – H1

WEBSITE

www.algotbot.live

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Overview

Thrust Decay Reversal is a pure price-action Expert Advisor that fades exhausted trends. It uses no indicators of any kind — every decision is derived directly from raw bar geometry: highs, lows, closes and candle ranges.

The strategy fuses two classic price-action ideas, *momentum* and *reversal*. A healthy trend pushes price with **expanding** candle ranges. When a directional run keeps printing fresh extremes but its candle ranges are **shrinking**, the move is running out of fuel — participants are committing with less and less conviction at worse and worse prices. That *decaying thrust* is the tell.

The EA never blindly picks a top or bottom. It waits for a run of consecutive directional bars whose newest bar's range has decayed well below the run's peak range, and then for the very next bar to **close back against the run** (a rejection candle). Only then does it fade the thrust:

- **Up-thrust that decays, then a bearish rejection close** → SELL
- **Down-thrust that decays, then a bullish rejection close** → BUY

Stops sit just beyond the thrust's structural extreme, and the target is a configurable reward-to-risk multiple of that stop distance.

How It Works

The EA evaluates once per freshly closed bar. On each new bar it inspects a fixed window of recent candles: shift `1` is the trigger (reversal) bar, and shifts `2 ... RunLength+1` form the thrust run that preceded it. At least `RunLength + 3` bars of history must exist before any evaluation is performed.

1. Detecting the thrust

The run bars are scanned from newest to oldest and each is compared with its older neighbour to confirm directional consistency:

- An **up-thrust** requires every run bar to make a *higher high* and a *higher close* than the bar before it.
- A **down-thrust** requires every run bar to make a *lower low* and a *lower close* than the bar before it.

If any bar breaks the chain, that direction is disqualified for the current window.

2. Confirming decay

While scanning, the EA records the largest single-bar range in the run (the run's *peak range*). The thrust only counts as exhausted when the newest run bar's range has dropped below the peak:

```
lastRunRange < DecayRatio × peakRange
```

With the default `DecayRatio = 0.70`, the newest bar's range must be smaller than 70% of the strongest bar in the run. A lower ratio demands more pronounced exhaustion; a higher ratio accepts subtler slowdowns.

3. The rejection trigger

The trigger bar (shift 1) must close back against the thrust. The distance it must reverse into its own range is set by `RejectClosePct` as a percentage of the trigger bar's full range.

- **Bearish rejection (after an up-thrust):** the trigger closes down ($\text{close} < \text{open}$), closes at least `RejectClosePct%` below its own high, and closes below the newest run bar's close.
- **Bullish rejection (after a down-thrust):** the trigger closes up ($\text{close} > \text{open}$), closes at least `RejectClosePct%` above its own low, and closes above the newest run bar's close.

4. Entry

When a valid setup is confirmed the EA opens a single market order — a **SELL** at the bid for a faded up-thrust, or a **BUY** at the ask for a faded down-thrust. Only one position per magic number is allowed at a time; the stop loss and take profit manage the exit entirely.

5. Stops and targets

The protective stop is *structural* — it is derived from the window's own extreme rather than a fixed pip distance. The EA measures the full window range (highest high to lowest low across the trigger and run bars) and adds a buffer:

```
buffer = (StopBufferPct / 100) × windowRange
```

```
SELL: SL = windowHigh + buffer
```

```
TP = entry - RewardRisk × (SL - entry)
```

```
BUY: SL = windowLow - buffer
```

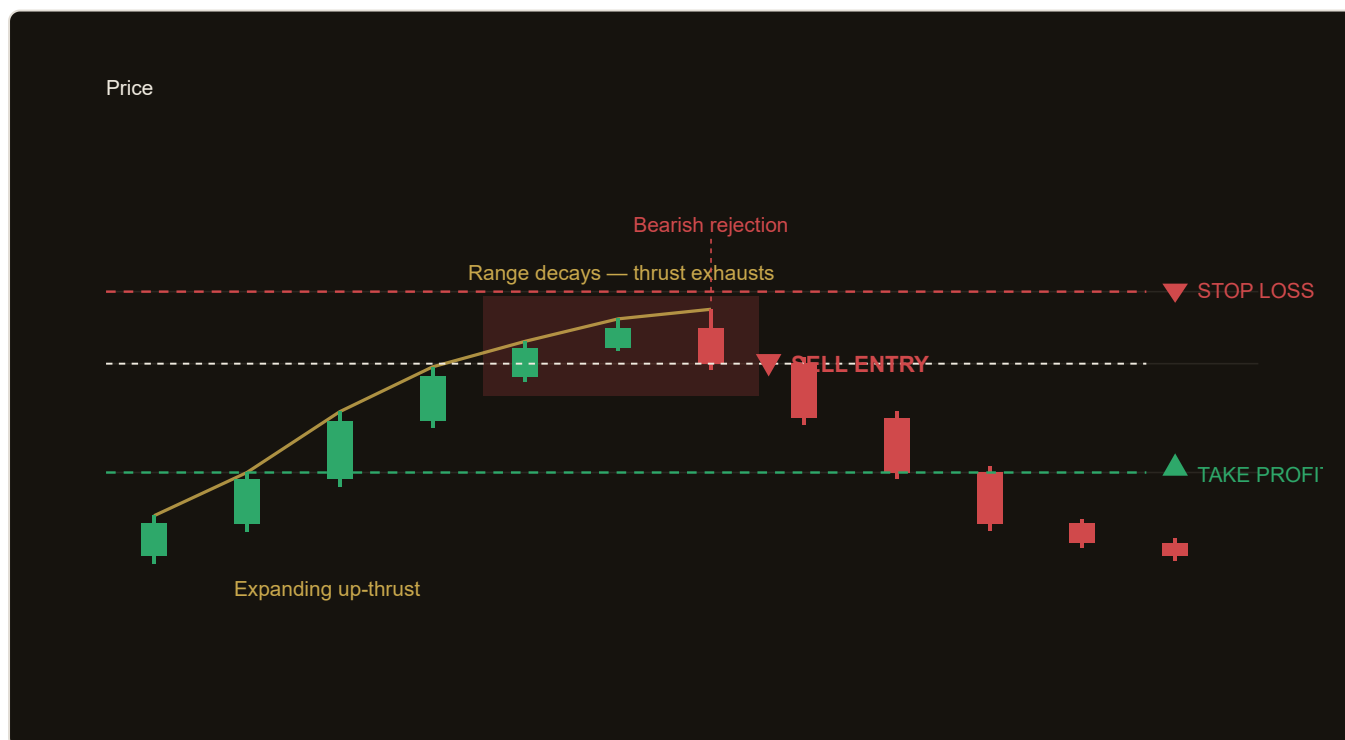
```
TP = entry + RewardRisk × (entry - SL)
```

Because both the stop and the target scale with the size of the move being faded, position risk adapts automatically to current volatility. The trade is invalidated — and skipped — if the computed risk distance is not positive.

Note: The strategy is entirely self-contained price action. There are no moving averages, oscillators, or external indicator handles to load, so it carries no indicator warm-up lag and releases no handles on shutdown.

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.

Walk-through of the example above

A run of bullish bars drives price higher, but each new bar's range shrinks — the gold envelope flattens as the thrust decays. The next candle spikes to a fresh high, then closes back down below the prior bar's close (a bearish rejection). The EA fades the move with a

SELL

, places the stop just beyond the window high, and targets a reward-to-risk multiple of that distance below entry, which price reaches as the move unwinds.

Parameters

Parameter	Default	Description
RunLength	4	Number of consecutive directional bars required to form the thrust. Range 3–8, step 1. Larger values demand a longer, cleaner run before a fade is considered.
DecayRatio	0.70	The newest run bar's range must be below this fraction of the run's peak range to count as decayed. Range 0.40–0.95, step 0.05. Lower = stronger exhaustion required.
RejectClosePct	50.0	Percentage of the trigger bar's range that its close must reject by (off the high for a sell, off the low for a buy). Range 0–100, step 5.
StopBufferPct	20.0	Percentage of the window range added beyond the structural extreme to place the stop loss. Range 5–60, step 5.
RewardRisk	1.50	Reward-to-risk multiple used to derive the take profit from the stop distance. Range 0.50–4.0, step 0.25.
Lots	0.10	Fixed order volume in lots. Range 0.01–1.0, step 0.05.
Magic	7327	Magic number used to identify and isolate this EA's positions so it manages only its own trades.

Recommended Settings

Because the logic is built entirely from bar geometry, it is sensitive to how "clean" the candles are. Liquid instruments and intraday timeframes tend to produce the most readable thrusts and rejections.

- **Timeframe:** M15 to H1. Lower timeframes generate more signals but noisier ranges; higher timeframes give cleaner thrusts but fewer setups.

- **Symbols:** major FX pairs (e.g. EURUSD, GBPUSD) and liquid indices, where range expansion and contraction are well defined.
- **RunLength:** keep at 4–5 for most markets; raise to 6–8 on trendier instruments to filter weaker setups.
- **RewardRisk:** the default 1.50 balances hit-rate and payoff; raise it for faster, trendier markets and lower it for choppier ranges.

Tip: Tune `DecayRatio` and `RejectClosePct` together. A stricter decay (lower ratio) paired with a deeper rejection (higher percentage) yields fewer but higher-conviction fades; loosening both increases trade frequency at the cost of signal quality. Always validate any combination in the Strategy Tester on your broker's data before going live.

How to Install on MetaTrader 5

- 1 Copy `ThrustDecayReversal.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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