

Crash system

Purpose:

The Crash system is a very low frequency long entry system built to identify moments of market capitulation, extreme downward conditions where selling has become so intense and exhausted that a mean-reversion or reversal is highly probable. Rather than betting on continued downside, this system steps in during the final stages of a collapse, when statistical and behavioral conditions suggest the downside is largely exhausted.

It's designed to help traders and analysts recognise precise turning points where risk is asymmetric to the upside.

Key Analytical Components

1. Momentum breakdown detector

This component measures how fast risk-adjusted performance is deteriorating, not just how weak the market is. It looks at the rate of change in structural strength, identifying when the market's internal fabric is collapsing rapidly, typically due to panic, liquidations, or forced selling.

- A reading below a critical threshold signals that the market is experiencing velocity-driven capitulation — a selloff that's too fast to sustain.
- This isn't a trend-following signal, it's a marker of overshoot and loss of structural balance, a precursor to reversal.

2. Trend efficiency tracker

This function calculates how directly and cleanly the price has dropped. It compares net movement (top to bottom) to the total "effort" (all up/down fluctuations) it took to get there.

- When this value becomes very negative, it means the market has collapsed with minimal interruption, which often marks a final emotional flush.
- Think of this as detecting purity of panic — the smoother and steeper the fall, the more likely it's nearing exhaustion.

Together, these two engines identify both the speed and quality of breakdown, a rare but potent combination that often precedes strong reversals.

Entry Criteria

The system triggers a long entry when:

- The momentum breakdown component signals extreme collapse velocity, meaning the market is melting down faster than usual.
- The trend efficiency component confirms the collapse is not just fast, but also clean and uninterrupted, indicating panic-driven price action.

This dual confirmation ensures that signals are only fired at statistically rare moments, where market conditions are so one-sided to the downside that a rebound becomes highly probable. These setups are not frequent, but when they occur, they carry strong mean-reversion probability.

On signal:

- The system records the entry price as a potential crash exhaustion bottom.

Exit Logic – stabilisation

The system doesn't exit based on price targets. Instead, it monitors for normalisation in trend behaviour:

- Specifically, the trend efficiency score must exit its extreme negative zone and stay within a neutral range for four consecutive bars.
- This condition implies the panic has passed, and price is stabilising or preparing for a more sustainable bounce.

Once this happens, the system exits the position. This exit logic avoids premature profit-taking and ensures the system captures a meaningful portion of the snapback that typically follows a crash.

Summary

The Crash system is a reversal detection system focused on buying deeply oversold, panic-driven markets. It combines:

- A momentum acceleration filter (detecting the speed of breakdown), and
- A trend efficiency filter (measuring collapse purity),

to identify true capitulation moments, not just dips, but violent, clean crashes.

It enters only when the selloff has reached unsustainable speed and depth, and exits when price behavior shows signs of stabilization and calm. The system is engineered to buy fear, not weakness, and profit when panic turns to equilibrium.