



TRADERSUITE · PROFESSIONAL INDICATOR SERIES

Reversal Probability Profile

The complete user guide to TS Reversal Probability for NinjaTrader 8 — how the profile is built from confirmed pivots, what the probability percentage really means, how to read the levels, zones and confluence score, how to trade it, and every one of the 78 settings explained.

v1.0.0

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How to read this guide

Sections 1–3 get you running. Sections 4–8 explain the engine: how a pivot is confirmed, how those pivots become a profile, and what every shape in the right margin means. Sections 9–14 cover what you interact with day to day — levels, zones, key levels, the confluence score, the panel and the alerts. **Sections 15–19 are the trading part.** Section 20 documents all 78 inputs with their defaults. Nothing in this guide is a performance claim.

The indicator at a glance

WHERE HAS THIS MARKET ACTUALLY TURNED BEFORE?

Every support line is a guess until you know how much history sits behind it. TS Reversal Probability counts the turns, stacks them by price, and puts a number on every level.

600

BARS OF LOOKBACK

5 / 5

PIVOT LEFT / RIGHT

140

PRICE BINS

100%

= MAX REVERSAL ZONE

In one paragraph. The indicator scans the last 600 bars for confirmed pivot highs and lows. Each pivot drops weight into a horizontal price bin, and a little into the bins around it, so nearby turns reinforce one another. Stack those bins up the price axis and you get a profile of where this market has reversed. The heaviest bin is the **max reversal zone**; it becomes the 100 % reference and every other level is labelled as a percentage of it. The profile is drawn as a flowing liquid shape in the right margin, coloured by cluster, with a sharp tongue reaching out to each active level.

What you are looking for

Price approaching a level whose tag reads a high percentage, in a market that is stretched away from its mean, with the 4-hour trend on your side. The tag turns gold when the confluence score agrees. That is the setup. The rest of this guide is about doing it the same way every day.

What the software decides

Which swings count as pivots, how the bins are weighted, which bin is the max zone, what each level's percentage is, which levels are close enough to merge, and whether a rejection has confirmed. It places no orders and gives no buy or sell instruction.

Three settings that matter most

Pivot left / right bars (5 / 5) decides what counts as a swing — raise it for fewer, bigger turns. **Calculation lookback** (600) decides how much history is in the profile. **Bin smoothing radius** (3) decides how tolerant the profile is about price not repeating to the tick. Everything else is presentation or filtering.

What you see on the chart

Switch it on and six things appear. Each one has a section of its own later; this page is the map.

1 The liquid profile — right margin

A smooth silhouette whose width at any price is how much reversal history sits at that price. It is filled with a vertical gradient through the cluster colours, with an outer glow and a glossy sheen. The widest point is the max reversal zone.

2 Tongues

Sharp needles reaching left out of the liquid body toward each active level and the max zone. A tongue's length is that level's probability $\times$ the profile width, so the strongest levels reach furthest toward price.

3 Support and resistance lines

Drawn from confirmed pivots. Support (from pivot lows) is aqua by default, resistance (from pivot highs) red. Once a line breaks it stays as faint dotted history rather than vanishing.

4 Level tags

A rounded pill at the right end of every active line carrying the price and the reversal probability. With confluence on, the tag also carries the score and gains a gold border when the score is high. Tags slide apart so they never overlap; a hairline connects a moved tag back to its line.

5 Key levels

Dashed lines for today's open, high and low, the previous day's high and low, and the last completed 4-hour candle's open, high, low and close. Below price they are treated as support, above price as resistance.

6 The panel

A small statistics block in the corner: licence state, pivots in the window, the max zone and how many pivots built it, where price sits now, the 4-hour trend, current stretch, and the nearest support and resistance with their probabilities.

Nothing here repaints a decision

A pivot is only stored once it is confirmed, and a confirmed pivot never moves. What does change is the *percentage* on a level: as new pivots arrive and old bars leave the lookback window, the densities and therefore the percentages update. That is the profile staying current, not the history being rewritten.

Installing it and setting up the chart

Install

- 1 **Copy the file.** Put `TS_Reversal_Probability.cs` in `Documents\NinjaTrader 8\bin\Custom\Indicators`.
- 2 **Restart NinjaTrader**, or close and reopen the NinjaScript Editor. NinjaTrader only scans that folder when it starts, so a file copied in while it is running stays invisible until it does.
- 3 **Press F5** to compile. If the file is open in an editor tab, close the tab first — otherwise the editor writes its own copy back over the file.
- 4 **Add it to a chart** from the Indicators dialog. It lives in the TraderSuite folder as `TS_Reversal_Probability`.
- 5 **Paste your licence key** into `OA.License > License Key`, or leave it empty to start the automatic 7-day trial.

Set the chart up properly

The profile draws in the empty space to the right of the last bar. Without that space there is nothing for it to draw into, and this is the single most common reason a first-time user sees no liquid.

Right side margin

Open **Chart Properties** and set **Right side margin** to roughly 120–200 pixels (or, if you prefer to think in bars, about `Profile offset + Profile width`). Leave **Stretch to chart edge** on and the liquid will fill whatever margin you give it, capped by `Profile max width (px)` at 220.

Bars on the chart

Load at least as many bars as your lookback, plus room for the pivots to confirm. With the default 600-bar lookback, 800–1000 loaded bars is comfortable. Fewer bars simply means a thinner profile until the history fills in.

The hidden 4-hour series

The indicator adds a 240-minute data series for the trend reading and the 4-hour key levels. Your data provider needs 4-hour history on the instrument. Nothing is drawn from it directly — it feeds the TREND row, the stretch reading and the H4 levels.

NQ / MNQ · reference

ES · YM · RTY and the micros

Any liquid future

FX and index CFDs

1 – 30 minute charts

Indicator only — no orders placed

Step one: how pivots are found

Everything downstream depends on this one definition, so it is worth being precise about it.

The rule

A bar is a **pivot high** when its high is higher than the highs of the **Pivot left bars** before it *and* the **Pivot right bars** after it. A **pivot low** is the mirror: its low is lower than every low in the same window either side. Both default to 5.

Why pivots appear late

A pivot cannot be known until the bars to its right have printed. With the default of 5 right bars, a swing high is confirmed five bars after the actual high. That is confirmation, not lag: the alternative is marking a high that a later bar takes out. The dot and the line are drawn at the pivot's own price and time, so on a finished chart it looks exactly where it should.

What left / right do to your chart

SETTING	EFFECT	USE WHEN
3 / 3	Many pivots, a dense profile that reacts fast	Scalping on 1–2 minute charts
5 / 5 (default)	Balanced — the swings a discretionary trader would mark	5–15 minute intraday
8 / 8	Fewer, larger turns; a cleaner but slower profile	15–60 minute swing work
12 / 12	Only major structure survives	Daily or higher timeframe study

Asymmetric settings

Left and right do not have to match. A smaller **right** value confirms pivots sooner at the cost of more of them being taken out later; a larger right value is stricter. If you want the profile to react quickly but stay selective, try 8 left / 4 right.

Memory and the window

Two limits keep the maths bounded. **Calculation lookback** (600 bars) is how far back the profile looks. **Pivot memory** (240) is the maximum number of confirmed pivots kept. On a fast chart with small pivot settings you can hit the pivot limit before the bar limit — if the profile seems to ignore older history, raise pivot memory first.

Step two: from pivots to a profile

Once a pivot is confirmed it stops being a point on a chart and becomes weight at a price.

Bins

The price range of the lookback window is cut into **Profile resolution** horizontal slices — 140 by default. Each pivot lands in one bin. Raise the resolution for a finer, more detailed silhouette; lower it for a broader, smoother read. On instruments with a wide range, 140 bins can make each bin several points tall, which is usually what you want — markets do not turn at the same tick twice.

Smoothing radius

Bin smoothing radius (3) spreads part of each pivot's weight into the three bins above and below its own. Without it, two turns four ticks apart would look like two unrelated events. With it, they reinforce each other into one area of interest. This is what turns a spiky histogram into a liquid shape.

RADIUS 0

Literal. Only exact bin hits count. Spiky, twitchy profile.

RADIUS 3 — DEFAULT

Nearby turns merge into areas. Reads like a zone map.

RADIUS 6+

Broad and soft. Everything blurs toward the middle.

The max reversal zone

The bin holding the most weight is the max reversal zone. It is marked with its own line and caption, and it is the yardstick: its density is 100 %, and every other level is expressed against it. The panel shows its price and how many pivots formed it (**ZONE PIVOTS**) — a max zone built from 12 pivots is a very different statement to one built from 3.

Why the shape flows instead of stepping

The bin densities are smoothed a second time (**Liquid smoothing**, default 3) and a spline is drawn through them, so the edge is a curve rather than a staircase of bars. Set Liquid smoothing to 0 and you will see the raw bin edges — useful once, to understand what is underneath the shape.

Reading the probability number

This is the number on every tag, and the one most likely to be misread. It is worth one page of its own.

PROBABILITY = DENSITY RELATIVE TO THE BUSIEST PRICE

It is a measure of the past, expressed as a percentage of the most-reverted price on the chart. It is not the chance of price turning next time.

The arithmetic

level density	the smoothed weight in that level's bin
max density	the weight in the heaviest bin — the max reversal zone
probability	level density ÷ max density, shown as a percentage

How to read the scale

TAG READS	WHAT IT MEANS	HOW TO TREAT IT
90 – 100%	At or beside the heaviest area on the chart	Primary level. Expect a reaction; plan around it.
60 – 89%	A well-used area, second tier	Tradeable with confluence agreeing.
30 – 59%	Some history, nothing special	Context, not a trade trigger on its own.
< 30%	Thin. One or two old turns	Background noise. Consider hiding with fewer lines.

Three ways to misread it

“80% means it holds 80% of the time.” It does not. It means the area carries 80% of the reversal history of the busiest area. No hit rate is implied or measured.

“The numbers fell, so the level got weaker.” Every percentage is relative to the max zone. A new, heavier max zone lowers everything else without any old level losing history.

“100% is the strongest level available.” 100% is the strongest *on this chart, in this window*. Change the lookback and the reference changes with it.

Clusters and what the colours mean

A list of twenty levels in one colour is a wall. Clustering turns that wall into a handful of readable shelves.

What clustering does

Pivot prices are grouped by k-means into **Profile clusters** groups — five by default, up to eight. Each group gets its own colour, and every pivot dot, cluster line and slice of the liquid gradient is coloured by the group it belongs to. Levels that share a colour are part of the same area of activity, even if they are a few points apart.

The default palette

Cluster 1	Sun yellow — lowest price group #FFD600
Cluster 2	Electric blue #2F7BFF
Cluster 3	Tangerine #FF8A00
Cluster 4	Hot red #FF2D55
Cluster 5	Aqua #00E5C0
Cluster 6	Violet #9B5DFF
Cluster 7	Magenta #FF5AC8
Cluster 8	Lime — highest price group #B0FF3B

Choosing the count

Clusters are assigned from the bottom of the range upward, so cluster 1 is always the lowest price group. Three clusters on a quiet range-bound day, five on a normal day, seven or eight when the session has travelled through several distinct areas. **Cluster iterations** (25) is how many k-means passes are run — more passes settle the boundaries more firmly, at a small cost in calculation time. There is rarely a reason to change it.

Using colour as a trade filter

When price is working inside one colour, you are trading inside a single shelf of history — expect chop. When price leaves one colour and enters the next, it has left an area the market knows well and is travelling toward another; that is where the tongues and percentages earn their keep.

The liquid profile, element by element

Everything in the right margin is drawn from the same bin densities. These settings only change how that data looks — none of them change a level, a probability or an alert.

Where it sits

Profile offset	Gap in bars between the last bar and the start of the liquid. Default 3. Keep it small.
Stretch to chart edge	On by default: the liquid uses the whole right margin, from the offset to the edge.
Profile size (%)	How much of that margin it uses when stretching. 25 by default; 50 is half the margin.
Profile max width	A hard pixel cap (220) so a huge margin does not produce an absurd shape.
Profile width (bars)	Used only when Stretch to chart edge is off. Width of the widest part, in bars (60).

Its shape

Liquid smoothing	0 follows every bin exactly; 3 (default) flows. Above 5 the detail is gone.
Liquid body (%)	Minimum width as a percentage of the full width (12), so the shape stays a continuous river through thin areas instead of pinching to nothing. Set 0 for true pinch.
Outer glow	Soft coloured halo behind the silhouette.
Glossy sheen	Highlight along the top of the body. Cosmetic.
Profile opacity	85 by default. Drop to 50–60 if the liquid competes with your bars.

Tongues

The most useful visual in the whole tool. With **Level tongues** on, the liquid itself reaches out in a sharp needle toward every active level and toward the max reversal zone.

Tongue length	Tip length = probability × profile width × Tongue length (%) (100). A 100% level reaches the full width; a 40% level reaches 40% of it.
Tongue thickness	Half-height in pixels where the tongue leaves the body (6). Smaller is sharper.

Reading tongues at a glance

You do not need to read a single number to use them. Long needle reaching toward price = heavy history at that price. Several long needles bunched together = a shelf worth respecting. A stub = a level with almost nothing behind it.

Captions and reference lines

Max zone line	A line through the heaviest bin, in that bin's cluster colour.
Cluster lines	Dashed lines through each cluster centre — the middle of each shelf.
Profile captions	The profile name, the top and bottom price of the window, and the max reversal zone caption.

Levels, tags and the overlap filter

How a level is born

Every confirmed pivot wants to become a line: pivot lows become support, pivot highs become resistance. Two rules stop that becoming a mess.

The ATR overlap filter

A new pivot line is skipped when an active line already sits within **ATR overlap multiplier** × ATR of it — $2.0 \times \text{ATR}(14)$ by default. The chart keeps the first line rather than drawing a near-duplicate a few ticks away. Lower it to 1.0 to see more, distinct levels; raise it to 3.0 on noisy instruments for a much quieter chart.

Maximum pivot lines A hard cap of 120 lines on the chart; the oldest are dropped first.

Keep broken lines On by default: a broken level stays as faint dotted history. Off removes it entirely.

Show pivot dots A small dot at every confirmed pivot, coloured by its cluster. Size 3.0 by default.

When is a level broken?

With plain lines, a level breaks when a bar **closes** through it. With zones on (Section 10), it breaks only when a bar closes beyond the *far edge* of the band — a wick into the zone, or even a close inside it, leaves the level alive. That single difference is why most users leave zones on.

The tags

Each active level carries a pill at its right end showing the price and the reversal probability, with the confluence score alongside when confluence is on. Tags are laid out top-down; any tag that would collide with the one above slides down and keeps a hairline back to its own level, so nothing is ever hidden and no tag ever sits on top of another.

Tag font size

Default 12. On a dense chart with many levels, 10 keeps the right side readable. Text is always white on a coloured pill so it stays legible against any chart background.

Gold border

A tag gains a gold border when its confluence score reaches **High confluence mark** (70). On a busy chart, scan for gold borders first and read the numbers second.

Colours

Support defaults to aqua #00FFBB, resistance to red #FF1100. These are deliberately not the cluster colours — cluster colour tells you *which shelf*, line colour tells you *which side*.

Zones instead of lines

A price level is never one tick. Zones acknowledge that, and they change how breaks are judged.

A ZONE BREAKS ONLY WHEN A BAR CLOSSES BEYOND ITS FAR EDGE

Wicks through the band, and closes inside it, leave the level alive. This is the single biggest difference between a chart full of “broken” levels and one that stays useful.

Draw levels as zones is on by default, and it applies to everything: pivot levels, key levels and the max reversal zone all become shaded bands.

Sizing a zone

MODE	SETTING	BEHAVIOUR
AtrPercent (default)	25	Band height is 25 % of ATR, so zones widen when the market gets volatile and tighten when it calms down.
Ticks	8	Fixed height in ticks, whatever volatility does. On NQ, 8 ticks = 2 points.

Which to use

AtrPercent for anything you run across different sessions or instruments — it self-adjusts. **Ticks** when you trade one instrument and think in fixed distances, or when you want the zone to match a fixed stop size. If zones look too fat on a quiet day, drop AtrPercent to 15–20.

Zone opacity 14 % by default — deliberately faint so bands sit behind price rather than over it. 25 makes them obvious; above 35 they start to dominate.

What changes when zones are on

- **Breaks are stricter.** A close beyond the far edge, not a close through a line.
- **Touch alerts have a real area to test** rather than a single price.
- **Rejections become measurable:** a poke into the band followed by a close back out is what the confluence score counts as a confirmed rejection.
- **The max zone gains a body** that matches how it actually behaves — as an area.

Key levels: session and 4-hour

Pivot levels come from the chart's own swing history. Key levels come from the calendar, and the market watches them for entirely different reasons. Both get tags, tongues and, with zones on, a band.

What is drawn

GROUP	LEVELS	SOURCE
Today	DO · DH · DL	Open, high and low of the current session, as defined by the chart's session template
Previous day	PDH · PDL	High and low of the previous trading session
Last 4-hour candle	O · H · L · C	The last <i>completed</i> 240-minute bar, from the hidden data series

Support or resistance is decided by where price is

A key level below current price is drawn as support (green family); above price, as resistance (red family). Cross a level and it flips role on the next calculation. That is deliberate — the previous day's high is resistance until it is reclaimed, then it is support.

Session template matters

"Today" and "previous day" mean whatever your chart's Trading Hours template says they mean. On a futures chart running an ETH template, the session starts in the evening, so the day's open is not 09:30 New York. If your DO line looks wrong, check the template before checking the indicator.

Why the last completed 4-hour bar

An in-progress 4-hour candle has a high and low that are still moving. Using the last completed bar gives levels that are fixed for four hours at a time, which is what makes them worth marking.

Turning them off

Each group has its own switch. Traders who work purely from structure often keep **Previous day** on and turn the other two off. The master switch is **Show key levels**.

Confluence between the two families

The strongest thing this indicator shows you is a high-percentage pivot level sitting on top of a key level — a heavy shelf of swing history exactly at the previous day's high. Those are rare and worth waiting for.

The confluence score

Density tells you the level matters. Confluence tells you whether *this arrival* at the level is worth acting on. The score runs 0–100 and appears on every tag.



1 Trend — 40 points

Measured on the hidden 240-minute series: the 4-hour close against its **Trend EMA period** (20) EMA. Above the EMA is an uptrend, which scores **support** levels; below it is a downtrend, which scores **resistance** levels. The direction of the last completed 4-hour candle adds a smaller weight on top, so a pullback into support inside an uptrend with a strong up candle scores higher than the same pullback after a weak one.

2 Stretch — 30 points

How far price has travelled from its mean when it reaches the level, measured in ATR. The mean is an SMA of **Stretch mean period** (20) on your chart's own timeframe. **Full stretch** (2.0 ATR) earns the full 30 points; half that earns roughly half. The logic is simple: price arriving at support already stretched is more likely to be met by buyers than price drifting into it.

3 Rejection — 30 points

A **confirmed rejection** is a poke into the zone followed by a close back out of it. Once one prints, it stays valid for **Rejection valid for** (5) bars, so a level that has just proven itself keeps scoring while the reaction is fresh. This is the only component that requires the market to have already done something.

Tuning the weights

The three weights are yours to set and do not have to add to 100 — the score is normalised. Trend-followers raise **trend** to 50 and drop stretch. Mean-reversion traders do the opposite: stretch 50, trend 20. Traders who only want proof raise **rejection** to 50 and use the confirmed rejection alert as their trigger.

Where the score shows up

On every level tag, as a gold border at or above **High confluence mark** (70), and as an alert filter: **Min confluence for alert** (50) silences rejection alerts that do not clear the bar.

Reading the panel

The panel is the numbers you would otherwise have to work out by eye. Compact mode is on by default and shows the rows most people use; switch **Compact panel** off for the full set.

ROW	SHOWS	HOW TO USE IT
LICENCE	Licence state and trial days	Should read LICENSED or MEMBER in normal use.
PIVOTS	Confirmed pivots in the window	Under ~20 means the profile is thin — load more bars or lower the pivot settings.
MAX_ZONE	Price of the heaviest bin	Coloured by its cluster. The chart's centre of gravity.
ZONE_PIVOTS	Pivots that built the max zone	The credibility of the 100 % reference. 3 is weak, 10+ is strong.
PRICE_NOW	Where price sits relative to the zones	Tells you at a glance if you are inside a level.
TREND_4H	▲ UP or ▼ DOWN, plus candle direction	The trend component of the score, in plain sight.
STRETCH	Distance from the mean in ATR	Turns gold at or beyond your Full stretch setting.
SUPPORT	Nearest support below, with its %	Your downside reference without reading the chart.
RESISTANCE	Nearest resistance above, with its %	Your upside reference. Use both to frame risk and reward.

Full mode adds

LEVELS	How many supports and resistances are active, as S / R.
CLUSTERS	The cluster count in use.
BIN_SIZE	The price height of one bin — the resolution of the profile in real money.
LOOKBACK	Bars in the calculation window.
PIVOT_L / R	Your pivot settings, so a screenshot is self-documenting.

Placement

Any of the four corners, with a pixel margin (14). Bottom-left by default because that corner is usually the emptiest on an intraday chart.

Logo

The TraderSuite shield at the top of the panel is downloaded once in the background and then cached locally. Turn it off to save a little vertical space.

Alerts and sounds

Alerts are **off** by default — switch on **Enable alerts** once you have the levels the way you want them, otherwise a fresh chart will talk at you while it builds its history. Alerts fire in real time only, never on historical bars.

The four alerts

New pivot	A new support or resistance level has been confirmed and drawn.
Level break	A bar has closed through an active level (or beyond a zone's far edge).
Zone touch	Price is inside the max reversal zone, or any zone at or above High probability threshold (80 %). Bullish and bearish variants depend on which pivot type dominates that zone.
Confirmed rejection	A zone has been poked and rejected, with a confluence score at or above Min confluence for alert (50).

The one to start with

If you only enable one, make it **confirmed rejection**. It is the only alert that requires the market to have already reacted, and it carries a quality filter. New-pivot alerts are informational; zone-touch alerts are early; break alerts are for managing a position you already hold.

Controlling the noise

High prob. threshold	Only zones at or above this percentage can raise a touch alert. Raise to 90 for the very heaviest areas only.
Min confluence	Rejection alerts below this score stay silent. 50 by default; 70 to match the gold-border standard.
Alert re-arm	Minimum seconds between repeats of the same alert (60). Raise it if price is oscillating on a zone edge.

Sound

Alert sound takes a PCM .wav file. A bare file name is looked up in NinjaTrader's own sounds folder, so `Alert2.wav` (the default) works with no path. A full path to your own file works too. Alerts appear in the NinjaTrader Alerts window as well, so you can review what fired after the session.

Calculate mode

The indicator runs on bar close. Alerts therefore fire on the close of the bar that satisfies the condition, not intra-bar. This is intentional: an intra-bar touch that reverses before the close is not a rejection, it is a wick.

How to trade it — the playbook

This section describes one consistent way to use the tool. It is a framework for your own testing, not a signal service and not advice. Nothing here has been back-tested for you, and no hit rate is claimed.

LEVEL → ARRIVAL → REJECTION → RISK

Find a level with history. Wait for price to arrive in a state worth fading. Let the market prove it. Then decide whether the reward justifies the risk.

1 Mark the level, before price gets there

- Look for tags reading **70 % or more**, or the max reversal zone itself.
- Prefer a level where the tongue is long *and* the level sits inside a cluster of the same colour — a shelf, not a single point.
- Best of all: a high-percentage pivot level sitting on a key level (previous day's high, the 4-hour open).

2 Judge the arrival

- Check **STRETCH** on the panel. Price arriving 1.5–2 ATR from its mean is a different proposition to price drifting in flat.
- Check **TREND 4H**. Fading resistance in a 4-hour uptrend is a counter-trend trade — take it smaller or skip it.
- Watch the tag: a gold border means the score has already cleared 70.

3 Let the zone prove itself

Wait for the **confirmed rejection**: a bar that pokes into the zone and closes back out of it. That single rule removes most of the trades where price simply walks through a level. With the rejection alert on, you do not have to watch for it.

4 Frame the risk

- **Stop**: beyond the far edge of the zone, plus your usual buffer. The zone edge is where the level is considered broken, so it is a logical invalidation rather than an arbitrary distance.
- **First target**: the nearest opposing level on the panel — **RESISTANCE** for a long, **SUPPORT** for a short — with its own percentage as a guide to how much it may slow price down.
- **Second target**: the max reversal zone, if price is not already in it.

Position sizing is not in this tool

The indicator has no idea what your account is or what you can lose. Size every trade from your own rules before the setup appears, not from how convincing the chart looks once it does.

The two recipes

Long at support

Level: support tag at 70 %+, ideally in the same cluster colour as nearby levels.

Context: 4-hour trend up, stretch at -1.5 ATR or more.

Trigger: confirmed rejection — a close back above the zone after a poke below.

Stop: below the zone's lower edge.

Targets: nearest resistance on the panel, then the max zone.

Short at resistance

Level: resistance tag at 70 %+, with a long tongue.

Context: 4-hour trend down, stretch at $+1.5$ ATR or more.

Trigger: confirmed rejection — a close back below the zone after a poke above.

Stop: above the zone's upper edge.

Targets: nearest support on the panel, then the max zone.

The continuation variant

The same levels work in reverse. When a bar closes decisively through a high-percentage level and the level does *not* reclaim on the next bar or two, the market has just gone through the area it knew best. Traders who prefer momentum use the break alert for this and treat the broken level — now dotted history — as the stop reference for a continuation trade.

Do not take both

Fading a level and trading its break are opposite trades on the same line. Decide in advance which one you are in the business of taking, and let the other go. The tool will happily show you both.

When to stand aside

- **PIVOTS is low.** Under about 20 pivots, the profile has not got enough history to mean much.
- **ZONE PIVOTS is 3 or fewer.** The 100 % reference itself is thin, so every other percentage is measured against something fragile.
- **Everything is one colour.** One cluster across the whole range usually means a narrow, chopping market where levels get run repeatedly.
- **Scheduled news inside the next few minutes.** No density profile survives a number nobody knew.
- **Price is mid-range with no level within reach.** There is no trade here; there is just a chart.

Keep a record

The panel makes each screenshot self-documenting — it carries the lookback, the pivot settings and the cluster count. Screenshot your entries. After thirty trades you will know which percentage band and which confluence score actually pay for you, which is worth more than any default in this guide.

A session, step by step

A worked example of the routine on a 5-minute NQ chart. Times are New York.

- 1 **Before the open.** Chart loaded with 800+ bars, right margin set. Read the panel: PIVOTS around 40–60, MAX ZONE noted, ZONE PIVOTS checked. Write down the max zone price — it is the level of the day.
- 2 **Mark the map.** Note every tag at 70 %+ above and below price, and where the previous day's high and low sit relative to them. Two or three levels each side is plenty; if you have ten, your ATR overlap multiplier is too low.
- 3 **First hour.** Expect levels to be tested and the percentages to shift as new pivots confirm. Do not chase the first touch of anything — wait for the rejection rule.
- 4 **The setup.** Price reaches a 78 % support that sits on the previous day's low. STRETCH reads –1.8 ATR, TREND 4H reads UP, the tag has a gold border. You are watching, not clicking.
- 5 **The trigger.** A bar wicks into the zone and closes back above it. The rejection alert fires. Enter on the close, stop below the zone's lower edge.
- 6 **Management.** The panel's RESISTANCE row is your first target and it updates as levels break. If price closes back below the zone's far edge, the reason for the trade has gone — that is the exit, whatever the stop says.
- 7 **After the close.** Screenshot the chart. The panel records the settings, so the screenshot is a complete record of what you were looking at.

The discipline this tool is built for

Every step above is decided before price arrives. The indicator's job is to tell you which prices have a history worth waiting at, and to prove when the market reacts to one. The moment you find yourself entering because the liquid looks impressive, you have stopped using it as designed.

Recommended settings by market

The defaults suit a 5-minute NQ chart. These are sensible starting points elsewhere — adjust from them rather than from scratch.

CHART	PIVOT L / R	LOOKBACK	BINS	CLUSTERS	ZONE
1 – 2 min futures	3 / 3	400	120	4	20% ATR
5 min futures (default)	5 / 5	600	140	5	25% ATR
15 min futures	6 / 6	700	160	5	25% ATR
60 min / swing	8 / 8	800	180	6	30% ATR
Daily	10 / 10	600	200	6	30% ATR
FX majors, 15 min	6 / 6	700	160	5	25% ATR

Confluence weights by style

STYLE	TREND	STRETCH	REJECTION	GOLD AT
Balanced (default)	40	30	30	70
Trend following	55	15	30	70
Mean reversion	20	50	30	65
Proof only	25	25	50	75

A quieter chart

ATR overlap multiplier 3.0, Maximum pivot lines 60, Keep broken lines off, Tag font size 10, Profile opacity 60. You lose detail and gain a chart you can actually read at a glance.

A denser chart

ATR overlap multiplier 1.0, Profile resolution 200, Bin smoothing radius 2, Clusters 7. For study rather than live trading — there is a lot on screen.

Change one thing at a time

These settings interact. Raising the pivot bars while also raising the lookback and the bin count can leave the profile looking identical while you have changed its meaning completely. Move one, watch a session, then move the next.

Tuning guide — symptom to fix

Straight from what you see on the chart to the setting that causes it.

WHAT YOU SEE	WHY	CHANGE
No profile at all	No right margin to draw into	Chart Properties > Right side margin → 150 px
Profile is a thin sliver	Margin share too low, or few pivots	Profile size → 40–50, check PIVOTS on the panel
Too many levels	Overlap filter too permissive	ATR overlap multiplier → 2.5–3.0
Too few levels	Overlap filter too strict, or pivots too slow	Overlap → 1.0–1.5, Pivot L/R → 4/4
Levels break constantly	Zones off, or too tight	Draw levels as zones on; Zone height → 30 % ATR
Everything reads 90 %+	Smoothing radius too wide — all bins similar	Bin smoothing radius → 1–2
Everything reads under 30 %	One dominant zone dwarfs the rest	Expected. Check ZONE PIVOTS; widen the radius to 4
Profile ignores old history	Pivot memory reached before the lookback	Pivot memory → 400
Shape is spiky	Little smoothing	Liquid smoothing → 4, Liquid body → 15
Shape is a featureless blob	Over-smoothed	Liquid smoothing → 1–2, Bins → 180
Tags overlap the price scale	Font too large for the margin	Tag font size → 10
Tongues reach across the chart	Tongue length at 100 % on a wide margin	Tongue length → 60–70
No TREND reading	No 4-hour history from the provider	Load more history, or turn confluence off
Alerts every few minutes	Thresholds too loose	High prob. → 90, Min confluence → 70, Re-arm → 180
Chart feels heavy	Too much being drawn	Max pivot lines → 60, Keep broken lines off, Glow off

The reset

Any time a chart gets away from you: remove the indicator and add it again. Every setting returns to the defaults in Section 20, which are a working configuration on a 5-minute futures chart. Rebuild from there.

Performance and housekeeping

What costs calculation time

The heavy work is the profile rebuild: bins, smoothing and k-means clustering. It runs on bar close, not on every tick, which is why the indicator is light in normal use. Three settings drive the cost:

Profile resolution	Bins, linearly. 200 bins costs noticeably more than 120.
Cluster iterations	k-means passes. 25 is plenty; 60 is waste.
Calculation lookback	How much history is walked on a rebuild.

If you run many charts

Resolution 120, cluster iterations 15, lookback 400, glow and sheen off. The read barely changes and the workload drops considerably. The visuals — glow, sheen, tongues — are drawing cost rather than calculation cost, and matter most on high-refresh charts.

Housekeeping

- **Templates.** Once tuned, save the indicator as a template (right-click the chart > Templates > Save As) so a new chart starts with your settings, not the defaults.
- **Workspaces.** Settings are stored per chart in the workspace. Copying a chart copies its settings.
- **Updates.** A new version is a replacement .cs file in the same folder. Close the file's editor tab first, overwrite, then press F5. Your licence key is stored with the chart, not in the file, so it survives an update.
- **Don't keep old copies.** A second copy of the file in the Indicators folder — even named . . . -1 .cs — declares the same class twice and the whole folder stops compiling.

Data matters more than settings

Two charts of the same instrument with different session templates or different history depth will show different profiles, and both are correct for the data they were given. Before concluding the indicator is wrong, check the bars it is being fed.

Settings reference — every input

Every input, by group, with the value it ships with. Group names match the settings dialog exactly. Where a recommended value differs from the default it is called out in Section 17.

0A. License

OPTION	DEFAULT	MEANING
License Key	(empty)	Your TraderSuite key for product code TSRPP . Hidden once entered. Leave blank to run the automatic 7-day trial.
License status	read-only	Confirms a key is stored. The key itself is never displayed.

1. Calculation — the engine

OPTION	DEFAULT	MEANING
Pivot left bars	5	Bars to the left that must be lower (pivot high) or higher (pivot low) for a pivot to confirm.
Pivot right bars	5	Bars to the right needed to confirm a pivot. Higher = slower but cleaner pivots.
Calculation lookahead	600	Maximum bars used for pivot storage, the profile range and the probability numbers.
Pivot memory	240	Maximum number of confirmed pivots kept for the profile and clustering.
Bin smoothing radius	3	Each pivot also adds weight to this many bins above and below its own bin.
Profile resolution	140	Number of vertical price bins in the profile.
Profile clusters	5	Number of pivot price groups (colours) in the profile. Maximum 8.
Cluster iterations	25	K-means passes used to group pivot prices into clusters.
ATR length	14	ATR length used by the overlap filter and by the ATR-based zone height.
ATR overlap multiplier	2.0	A new pivot line is skipped when an active line already sits within this many ATRs of it.

The two that change everything

Pivot left / right defines what a swing is; **Calculation lookahead** defines how much history is in the profile. Every percentage on the chart is downstream of those two numbers.

2. Levels

OPTION	DEFAULT	MEANING
Show pivot lines	On	Draw support (pivot low) and resistance (pivot high) lines.
Show level tags	On	Pill tag at the right end of every active line: price and reversal probability. Tags slide apart so they never cover a line or each other.
Keep broken lines	On	Broken lines stay as faint dotted history. Off removes them when they break.
Maximum pivot lines	120	Maximum number of support/resistance lines kept on the chart; oldest are dropped first.
Support colour	#00FFBB	Colour of lines, zones and tags built from pivot lows.
Resistance colour	#FF1100	Colour of lines, zones and tags built from pivot highs.
Show pivot dots	On	Small dot at every confirmed pivot, coloured by its profile cluster.
Pivot dot size	3.0	Radius of the pivot dot in pixels.
Draw levels as zones	On	Every level becomes a shaded band. A level is broken only when a bar closes beyond the far edge of its band.
Zone size mode	AtrPercent	Ticks = fixed height. AtrPercent = height as a percentage of ATR, so zones grow with volatility.
Zone height (ticks)	8	Total zone height in ticks when the mode is Ticks. On NQ, 8 ticks = 2 points.
Zone height (% of ATR)	25	Total zone height as a percentage of ATR when the mode is AtrPercent.
Zone opacity (%)	14	Fill opacity of the band. Deliberately faint so zones sit behind price.
Tag font size	12	Font size of the level tags. Text is always white on a coloured pill.

Zones change how breaks are judged

With **Draw levels as zones** on, a level survives a wick through the band and even a close inside it. Only a close beyond the far edge breaks it. Turning zones off makes every level a single price and every wick a potential break.

2B. Key levels

OPTION	DEFAULT	MEANING
Show key levels	On	Master switch for session and 4-hour levels, drawn as dashed lines with tags and tongues. Below price = support, above price = resistance.
Today: open, high, low	On	DO / DH / DL of the current trading session, as defined by the chart's session template.
Previous day: high, low	On	PDH / PDL of the previous trading session.
Last 4-hour candle	On	Open, high, low and close of the last completed 240-minute bar (a hidden data series).

2C. Confluence

OPTION	DEFAULT	MEANING
Use confluence score	On	Adds a 0–100 score to every level tag: does the 4-hour trend agree, did price arrive stretched, and has the zone confirmed a rejection.
Trend EMA period (4H)	20	EMA on the 240-minute series. Close above = uptrend (scores supports), below = downtrend (scores resistances). The last 4H candle's direction adds a smaller weight.
Stretch mean period	20	SMA on the chart's own series that price is measured against.
Full stretch (ATR)	2.0	Distance from the mean, in ATRs, that earns the full stretch score.
Rejection valid for (bars)	5	A confirmed rejection (poke into the zone, close back out) keeps counting for this many bars.
Weight: trend	40	Share of the score given to the 4-hour trend component.
Weight: stretch	30	Share of the score given to how stretched price is on arrival.
Weight: rejection	30	Share of the score given to a confirmed rejection.
High confluence mark	70	Tags at or above this score get a gold border.

Weights are relative

The three weights do not have to add up to 100 — the score is normalised against their total. Setting 50 / 25 / 25 and 100 / 50 / 50 produces the same scores.

3. Profile

OPTION	DEFAULT	MEANING
Show profile	0n	The liquid reversal profile in the right margin.
Profile offset (bars)	3	Gap between the last bar and the start of the profile.
Stretch to chart edge	0n	The liquid fills the right margin from the offset to the chart edge. Off uses Profile width instead.
Profile size (% of margin)	25	How much of the right margin the liquid uses when stretching.
Profile max width (px)	220	Hard cap on the liquid's width in pixels, whatever the margin size.
Profile width (bars)	60	Width of the widest part in bars — only used when Stretch to chart edge is off.
Profile opacity (%)	85	Opacity of the whole liquid shape.
Liquid smoothing	3	How much the silhouette is smoothed before the curve is drawn. 0 = follow every bin.
Liquid body (%)	12	Minimum width as a percentage of the profile width, so the shape flows as one river through thin areas. 0 = pinch to nothing.
Level tongues	0n	The liquid reaches out in a sharp tongue to every active level and the max reversal zone.
Tongue length (%)	100	Scales every tongue. 100 = a 100 % level reaches the full profile width.
Tongue thickness (px)	6	Half-height of a tongue where it leaves the body. Smaller = sharper needle.
Outer glow	0n	Soft coloured halo behind the silhouette.
Glossy sheen	0n	Highlight along the body. Cosmetic only.
Show max zone line	0n	Line through the highest-density bin — the max reversal zone.
Show cluster lines	0n	Dashed lines through the cluster centres.
Show profile captions	0n	Profile name, top and bottom price of the window, and the max reversal zone caption.
Cluster 1 – 8 colours	see below	One colour per price group, lowest to highest: #FFD600 yellow, #2F7BFF blue, #FF8A00 tangerine, #FF2D55 red, #00E5C0 aqua, #9B5DFF violet, #FF5AC8 magenta, #B0FF3B lime.

4. Alerts

OPTION	DEFAULT	MEANING
Enable alerts	Off	Master switch. Alerts fire in real time only, never on historical bars.
New pivot alerts	On	Fires when a new support or resistance pivot line is confirmed.
Level break alerts	On	Fires when a bar closes through an active level, or beyond a zone's far edge.
Zone touch alerts	On	Fires when price is inside the max reversal zone or any zone above the threshold, with bullish and bearish variants by which pivot type dominates that zone.
High probability threshold	80	Minimum reversal probability for a zone-touch alert.
Confirmed rejection alerts	On	Fires when a zone confirms a rejection (poke in, close back out) at or above the minimum confluence below.
Min confluence for alert	50	Rejection alerts below this score stay silent.
Alert re-arm (seconds)	60	Minimum time between repeats of the same alert.
Alert sound	Alert2.wav	PCM .wav file. A bare file name is looked up in NinjaTrader's sounds folder; a full path also works.

5. Panel

OPTION	DEFAULT	MEANING
Show panel	On	Master switch for the statistics panel.
Compact panel	On	Fewest rows, tightest layout. Off shows the full statistics set.
Panel placement	BottomLeft	Which corner of the chart the panel sits in.
Panel margin (px)	14	Distance from the chosen corner.
Show logo	On	TraderSuite logo at the top of the panel. Downloaded once in the background, then cached locally.

Not in the dialog

Calculate is fixed to **On bar close**, the indicator is an **overlay** on the price panel, it is excluded from the data box and paints no price markers. These are set in code so the indicator behaves the same on every chart.

Licensing and activation

TS Reversal Probability carries the TraderSuite Licence System v3.1 under product code **TSRPP**. It validates against tradersuite.online, caches the result for 24 hours, and keeps working offline inside a seven-day grace window. Without a valid licence or trial, nothing is drawn and the chart shows a licence notice instead.

Getting started

- 1 **Add the indicator** to a chart — Indicators dialog > TraderSuite folder.
- 2 **Open its settings** and find **OA. License > License Key**.
- 3 **Paste your key** — or leave it empty to start the automatic 7-day trial.
- 4 **Click OK**. The panel's LICENCE row confirms your status within a second or two.

Licence states you may see

PANEL SHOWS	MEANING
LICENSED	Valid product licence, activated on this machine.
MEMBER	Active membership licence.
TRIAL Xd	Free trial running, with days remaining shown.
OFFLINE	Server unreachable; running on the offline grace period.
CHECKING	Validation in progress. Normal for a moment after a chart loads.
ADMIN	Administrator key issued by the server.
INVALID	Attention needed — invalid key, wrong product, maximum activations reached, expired, or the machine needs internet. The notice on the chart names the reason.

Activations

A licence activates on a limited number of machines. Deactivate an old machine from your account dashboard before activating a new one. Reloading a chart or running historical data uses the cached validation and does not consume an activation.

Offline working

After one successful check the result is cached for 24 hours. If the server cannot be reached after that, the indicator keeps running for up to seven days and shows OFFLINE. Reconnect once inside that window and the clock resets.

The trial

Seven days, started automatically the first time the indicator runs with an empty key, tracked per machine. It is the full product — no features are held back. When it ends the chart shows the licence notice until a key is entered.

What this indicator is not

Being clear about the boundaries is the fastest way to use it well.

IT MEASURES HISTORY. IT DOES NOT PREDICT.

The percentage on a tag is the weight of past turns at that price relative to the busiest price on the chart. It is not a probability that price will reverse, and no hit rate is calculated anywhere in the tool.

- **It is not a signal service.** There is no buy or sell arrow. The alerts describe events — a pivot confirmed, a level broken, a zone touched, a rejection printed — and leave the decision to you.
- **It does not place, size or manage orders.** It is an indicator; it never touches your account.
- **It is not a strategy and has no performance record.** Nothing in this guide, including Sections 15 and 16, is a claim about profitability. Test any approach yourself before risking money.
- **It does not know about news.** A density profile describes a market that was trading on the information it had. A scheduled release changes that information.
- **It is not a levels feed.** Two charts with different session templates, history depth or pivot settings will show different levels, and both are correct for the data they were given.
- **It does not repaint decisions, but percentages do move.** A confirmed pivot is fixed forever. The percentages are relative to the current max zone, so they update as the window rolls forward.

Risk

Futures, FX and CFD trading carries substantial risk of loss and is not suitable for every investor. Past behaviour of a price level is not a guide to future behaviour. Nothing in this product or this document is financial advice or a recommendation to buy or sell anything.

Troubleshooting and FAQ

The indicator does not appear in the Indicators list

NinjaTrader scans the Indicators folder at startup. Copy the file in, then restart NinjaTrader (or close and reopen the NinjaScript Editor) and press F5. If it still does not appear, check the compile succeeded — a single error anywhere in the folder stops every new indicator from being registered.

The whole folder stopped compiling after I saved the file

Almost always a duplicate. Downloading the file twice leaves `TS_Reversal_Probability-1.cs` beside the original, which declares the same class twice and produces CS0101 and CS0111 errors. Delete the extra copy.

My edits disappear when I press F5

If the file is open in a NinjaScript Editor tab, compiling writes that tab's copy back to disk. Close the tab before replacing the file from outside NinjaTrader.

No liquid profile on the right

There is no margin for it to draw into. Chart Properties > Right side margin → 150 pixels. See Section 3.

TREND 4H shows a dash

The 240-minute series has not loaded enough history, usually because the chart has too few days on it or the data provider has no 4-hour history for that instrument. Load more days, or switch confluence off.

The percentages changed and I did nothing

Expected. A new pivot confirmed, or old bars dropped out of the lookback window, and the max zone reference moved with them. The underlying history has not been rewritten.

A level I liked has vanished

Either it broke and **Keep broken lines** is off, or the 120-line cap dropped the oldest lines, or the ATR overlap filter merged it into a newer line nearby.

Alerts fire constantly

Raise **High probability threshold** to 90, **Min confluence for alert** to 70, and **Alert re-arm** to 180 seconds. Consider running only the confirmed rejection alert.

Can I use it on a Renko or range chart?

It will run on any bar type, but the pivot definition counts *bars*, not time. On bar types where a bar is not a fixed period, the lookback window and the 4-hour trend will not line up in the way you expect. Standard time-based charts are what it is built for.

Does it work on stocks, FX or crypto?

Yes, on anything with a continuous, liquid price series. Instruments that gap heavily overnight produce thinner profiles because a gap leaves no pivots in the gapped range.

Can I read the levels from my own strategy?

The indicator exposes no plot series for the levels — they are drawn objects, not plots. It is designed as a visual and alert tool. If you need programmatic levels, that is a custom build.

Does it repaint?

A confirmed pivot never moves, and a level, once drawn, stays at its price. What updates is the *percentage* on each level, because it is relative to the current max zone. See Section 6.

Why does it only calculate on bar close?

Because a wick into a zone that reverses before the close is not a rejection. Bar-close calculation is what makes the rejection rule mean something, and it keeps the profile rebuild off the tick thread.

How many charts can I run it on?

As many as your machine handles. See Section 19 for the light configuration if you run a large workspace.

The panel covers my drawings

Move it to another corner with **Panel placement**, or switch it off entirely — every number it shows is also visible on the chart itself.

I get INVALID but my key is correct

Check the key is for product code **TSRPP**, that the machine has internet access, and that you have not used all activations. The on-chart notice states which of those it is. Deactivate an old machine from your dashboard if you have changed computers.

Still stuck?

Take a screenshot with the panel visible — it records the lookback, the pivot settings and the cluster count — and send it with the instrument, the chart interval and the session template you are using. Those five things answer most questions immediately.

Changelog

Version 1.0.0

AREA	DETAIL
Engine	Confirmed pivot detection with independent left and right bars; bin profile with a smoothing radius; k-means clustering of pivot prices into up to eight colour groups; max reversal zone identified as the 100 % reference.
Levels	Support and resistance lines from pivots with an ATR overlap filter; probability tags with automatic collision avoidance; broken levels kept as dotted history; optional zones sized in ticks or as a percentage of ATR.
Key levels	Session open, high and low; previous day high and low; last completed 4-hour candle open, high, low and close.
Confluence	0–100 score from 4-hour trend, stretch from the mean in ATR and confirmed rejection, with user weights and a gold-border threshold.
Profile	Liquid silhouette with spline smoothing, gradient through the cluster colours, outer glow, glossy sheen, minimum body width and level tongues scaled by probability.
Alerts	New pivot, level break, zone touch and confirmed rejection, with probability and confluence thresholds, a re-arm timer and a configurable sound.
Panel	Compact and full statistics panel in any corner, with licence state, pivot counts, max zone, price position, trend, stretch and nearest levels.
Licensing	TraderSuite Licence System v3.1, product code TSRPP, 7-day trial, 24-hour cache and a 7-day offline grace window.

Keeping up to date

Updates are published on tradersuite.online under this product. An update is a replacement .cs file — close the file's editor tab, overwrite it in the Indicators folder, and press F5. Your licence key lives with the chart, not the file, so it survives the update.

END OF GUIDE

tradersuite.online

TS Reversal Probability · v1.0.0 · Product code TSRPP