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FREE GUIDE

Technical Indicators Guide



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10 Essential Indicators

RSI, MACD, Bollinger Bands, moving averages and more.
How each one works and how to use it well.

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Contents

Indicator 1: Moving Averages 3

Indicator 2: RSI 5

Indicator 3: MACD 7

Indicator 4: Stochastic Oscillator 9

Indicator 5: Bollinger Bands 11

Indicator 6: Average True Range (ATR) 13

Indicator 7: ADX and DMI 15

Indicator 8: Ichimoku Cloud 17

Indicator 9: VWAP 19

Indicator 10: On-Balance Volume (OBV) 21

INDICATOR 1 *Trend*

Moving Averages Explained: SMA vs EMA and How to Use Them

Moving averages are the simplest and most widely used indicator in trading. They smooth out the noise so you can see the trend more clearly.



What it is

A moving average (MA) is the average price over a set number of periods, recalculated with every new bar. As new prices come in and old ones drop out, the average "moves" with the market. It's a trend indicator: it tells you which way prices are heading, not when they'll turn.

How it's calculated

- **Simple moving average (SMA):** add up the last N closing prices and divide by N. A 20-day SMA is the average close of the last 20 days. Every day counts equally.
- **Exponential moving average (EMA):** gives more weight to recent prices, so it reacts faster to new moves. The trade-off is more false signals in choppy markets.

Popular settings

- **9 to 21 periods:** short-term trend, used by active traders.
- **50 periods:** medium-term trend.
- **200 periods:** the long-term trend. The 200-day average on indices like the S&P 500 is watched by almost everyone.

How to read it

- **Price above a rising MA:** uptrend. **Price below a falling MA:** downtrend.
- **A flat MA with price crossing back and forth:** no clear trend. Moving averages work poorly here.
- **The slope matters** as much as the position. A steep slope shows a strong trend.

Three practical ways to use it

1. **Trend filter.** Only look for buying setups when price is above the 200-day MA and for selling setups when it's below. This simple rule keeps you on the right side of the bigger trend.
2. **Crossovers.** When a faster MA crosses above a slower one, momentum is turning up. The best-known version is the **golden cross** (50-day crossing above the 200-day). The opposite is the **death cross**. Crossovers lag, so they work best in markets that trend for a long time.
3. **Dynamic support and resistance.** In a healthy uptrend, pullbacks often stop near the 20 or 50 period MA. Traders watch for a bullish candle at the average as an entry signal.

Common mistakes

- Using moving averages in sideways markets, where they produce one false crossover after another.
- Forgetting that MAs lag. By the time a crossover appears, a good part of the move may be over.
- Constantly changing the period to fit past data. Pick standard settings and stick with them.

Works well with

- **RSI** or the **Stochastic** to time entries within the trend.
- **ADX** to check whether there's a trend worth following.

Quick summary

- MAs show the direction of the trend and smooth out noise.
- SMA is steadier, EMA is faster.
- Use them as a filter, for crossovers or as dynamic support, but not in flat markets.

INDICATOR 2 *Momentum*

RSI Explained: How to Use the Relative Strength Index

The Relative Strength Index is the most popular momentum oscillator in the world. It tells you how strong recent buying or selling has been, on a simple scale from 0 to 100.



What it is

RSI was created by J. Welles Wilder and published in 1978. It compares the size of recent gains with the size of recent losses. When gains dominate, RSI rises; when losses dominate, it falls. It's a momentum indicator: it measures the speed and strength of price moves.

How it's calculated

1. Over the last 14 periods, work out the average gain on up bars and the average loss on down bars (using Wilder's smoothing).
2. Divide the average gain by the average loss. This is the relative strength (RS).
3. RSI = 100 minus 100 divided by (1 + RS).

You don't need to calculate it by hand; every platform does it for you. What matters is what the number means.

Default settings

- **Period:** 14.
- **Levels:** 70 (overbought) and 30 (oversold). Some traders use 80 and 20 for stronger signals.
- **The 50 line:** the midpoint between bullish and bearish momentum.

How to read it

- **Above 70:** buying has been very strong. The market may be stretched.
- **Below 30:** selling has been very strong. A bounce becomes more likely.
- **Above 50:** momentum is on the buyers' side. **Below 50:** the sellers' side.

Three practical ways to use it

1. **Overbought and oversold in ranges.** In a sideways market, RSI below 30 that turns back up near support can signal a buying opportunity, and RSI above 70 near resistance a selling one.
2. **Divergence.** If price makes a new high but RSI makes a lower high, momentum is fading. This bearish divergence often comes before a pullback. The bullish version is a lower low in price with a higher low in RSI.
3. **Trend confirmation.** In strong uptrends, RSI tends to stay between 40 and 80 and bounce off 40 to 50. In downtrends, it tends to stay between 20 and 60. A shift in this range can hint at a change of trend.

Common mistakes

- **Selling just because RSI is above 70.** In strong trends, RSI can stay overbought for weeks while prices keep rising.
- **Ignoring the trend.** Oversold signals work far better in uptrends than in downtrends.
- **Trading every divergence.** Divergence can last a long time. Wait for price to confirm, for example with a break of a trendline.

Works well with

- **Moving averages** to know the trend.
- **Support and resistance levels** and **candlestick patterns** for timing.

Quick summary

- RSI measures momentum on a 0 to 100 scale.
- 70 and 30 mark overbought and oversold zones, but they're not automatic signals.
- Divergence and the 50 line are often more useful than the extremes.

INDICATOR 3 *Trend and momentum*

MACD Explained: Signal Line, Histogram and Divergence

MACD combines trend and momentum in one indicator. It shows whether a trend is gaining or losing strength, and it's one of the most widely used tools on any chart.



What it is

MACD stands for Moving Average Convergence Divergence. It was developed by Gerald Appel in the late 1970s; the histogram was added later. It measures the gap between two exponential moving averages. When the gap widens, momentum is growing; when it narrows, momentum is fading.

How it's calculated

- **MACD line:** the 12-period EMA minus the 26-period EMA.
- **Signal line:** a 9-period EMA of the MACD line.
- **Histogram:** the MACD line minus the signal line, drawn as bars around zero.

Default settings

12, 26 and 9. They're used so widely that most traders never change them, and that's a reason to stick with them: everyone is watching the same signals.

How to read it

- **MACD above zero:** the short-term average is above the long-term one, so the trend is up. **Below zero:** the trend is down.
- **MACD above the signal line:** momentum is improving. **Below:** momentum is weakening.

- **Histogram bars growing:** momentum is accelerating. **Shrinking:** it's slowing, often before a crossover.

Three practical ways to use it

1. **Signal line crossovers.** A bullish signal occurs when the MACD line crosses above the signal line; a bearish signal when it crosses below. Crossovers above zero in an uptrend (or below zero in a downtrend) are the most reliable, because they agree with the trend.
2. **Zero line crossovers.** When MACD crosses above zero, the 12 EMA has moved above the 26 EMA. It's a slower but more solid confirmation that a new uptrend may be starting.
3. **Divergence.** If price makes a higher high but MACD makes a lower high, upward momentum is fading. Bullish divergence is the reverse. Treat divergence as a warning and wait for price to confirm.

Common mistakes

- **Trading every crossover in a sideways market.** MACD whipsaws back and forth and generates lots of false signals.
- **Forgetting the lag.** MACD is built from moving averages, so it reacts after the move has started.
- **Comparing MACD values across markets.** The numbers depend on the price level, so a MACD of 2 means very different things for a $20 stock and a $500 stock.

Works well with

- **ADX** to confirm that the market is trending.
- **RSI** for a second view on momentum and divergence.

Quick summary

- MACD shows trend direction and momentum together.
- Watch signal line crossovers, the zero line and the histogram.
- It works best in trending markets and lags in fast reversals.

INDICATOR 4 *Momentum*

Stochastic Oscillator Explained: %K, %D and Overbought Levels

The stochastic oscillator shows where today's close sits within the recent trading range. It's fast, easy to read and especially useful in sideways markets.



What it is

The stochastic was developed by George Lane in the 1950s. His idea was simple: in an uptrend, prices tend to close near the top of their recent range; in a downtrend, near the bottom. The indicator turns that idea into a number between 0 and 100.

How it's calculated

- **%K:** (current close minus the lowest low of the last 14 periods) divided by (the highest high minus the lowest low), times 100.
- **%D:** a 3-period average of %K. It acts as a signal line.
- Most platforms show the "slow" stochastic, where %K is smoothed once more over 3 periods. That's why you'll often see the setting written as 14, 3, 3.

Default settings

- **14, 3, 3.**
- **Levels:** 80 (overbought) and 20 (oversold).

How to read it

- **Above 80:** the close is near the top of the recent range. Buyers are strong, but the move may be stretched.
- **Below 20:** the close is near the bottom of the range.
- **%K crossing %D:** a change in short-term momentum.

Three practical ways to use it

1. **Crossovers in the extreme zones.** A bullish signal is when %K crosses above %D while both are below 20, then climb back above 20. A bearish signal is a cross below %D above 80, followed by a move back under 80.
2. **Trading with the trend.** In an uptrend, use oversold readings as pullback entries and ignore overbought ones. In a downtrend, do the opposite. This avoids fighting the main direction.
3. **Divergence.** A lower low in price with a higher low in the stochastic suggests selling pressure is fading. It's the same idea as RSI divergence, but the stochastic reacts faster.

Common mistakes

- **Treating 80 as a sell signal.** In strong trends, the stochastic can stay above 80 for a long time.
- **Using it alone in fast trends.** Because it's sensitive, it gives many early signals.
- **Ignoring the timeframe.** A signal on a 5-minute chart means much less than one on a daily chart.

Works well with

- **Moving averages** to define the trend first.
- **Bollinger Bands** to spot stretched prices at the bands.

Quick summary

- The stochastic shows where the close sits within the recent range, from 0 to 100.
- 80 and 20 mark the extreme zones; %K and %D crossovers give signals.
- Best in ranges or for pullback entries in the direction of the trend.

INDICATOR 5 *Volatility*

Bollinger Bands Explained: Squeezes, Breakouts and Band Walks

Bollinger Bands wrap price in an envelope that expands and contracts with volatility. They show you when a market is calm, when it's excited, and when a big move may be coming.



What it is

Bollinger Bands were created by John Bollinger in the 1980s. They consist of a moving average in the middle and two bands above and below it. The distance of the bands depends on volatility, so they adapt automatically to the market.

How it's calculated

- **Middle band:** a 20-period simple moving average.
- **Upper band:** the middle band plus 2 standard deviations of price.
- **Lower band:** the middle band minus 2 standard deviations.

Standard deviation is a statistical measure of how spread out prices are. When prices swing wildly, it rises and the bands widen. When they're quiet, the bands narrow.

Default settings

20 periods and 2 standard deviations. Most price action stays inside the bands with these settings.

How to read it

- **Wide bands:** high volatility. **Narrow bands:** low volatility.
- **Price at the upper band:** strong relative to recent prices. **At the lower band:** weak.
- **The middle band** often acts as support in uptrends and resistance in downtrends.

Three practical ways to use it

1. **The squeeze.** When the bands become unusually narrow, volatility is low, and low volatility tends to be followed by high volatility. Traders wait for price to close outside the bands to signal the direction of the breakout.
2. **Mean reversion in ranges.** In a sideways market, price touching the lower band and turning up can signal a move back toward the middle band. The reverse applies at the upper band.
3. **Walking the bands.** In strong trends, price can "walk" along the upper or lower band for many bars. That's a sign of strength, not a reason to bet on a reversal.

Common mistakes

- **Treating every touch of a band as a reversal signal.** In trends, touches often mean the move is strong.
- **Guessing the direction of a squeeze.** The squeeze tells you a move is likely, not which way it will go.
- **Using the bands alone.** Combine them with a momentum indicator for confirmation.

Works well with

- **RSI** to confirm whether a touch of a band is stretched or strong.
- **ATR** to set stops that match current volatility.

Quick summary

- Bollinger Bands measure volatility around a 20-period average.
- A squeeze often comes before a big move.
- In trends, prices can ride the bands; in ranges, they tend to bounce between them.

INDICATOR 6 *Volatility*

Average True Range (ATR): How to Measure Volatility and Set Stops

ATR doesn't tell you where the market is going. It tells you how far it usually moves. That makes it one of the most useful tools for risk management.



What it is

The Average True Range was introduced by J. Welles Wilder in 1978. It measures volatility: the average size of price moves over a period. A rising ATR means bigger swings; a falling ATR means a calmer market.

How it's calculated

1. For each bar, find the **true range**: the largest of (high minus low), (high minus previous close) and (previous close minus low, as a positive number). Using the previous close captures gaps.
2. Average the true range over 14 periods using Wilder's smoothing.

ATR is shown in price units. An ATR of 1.50 on a stock means it typically moves about $1.50 per bar on that timeframe.

Default settings

14 periods.

How to read it

- **Rising ATR:** volatility is increasing, often during sell-offs or breakouts.
- **Falling ATR:** the market is calming down, often during steady trends or consolidations.

- **The level only makes sense relative to the price** and its own history. Compare ATR with its recent average, not with other markets.

Three practical ways to use it

1. **Stop placement.** Instead of a fixed distance, place your stop a multiple of ATR away from your entry, for example 1.5 to 2 times ATR. This keeps your stop outside normal market noise.
2. **Position sizing.** If you risk EUR 100 per trade and your stop is 2 ATR away, with ATR at EUR 2.50, your stop is EUR 5 away, so you'd trade 20 shares. When volatility rises, your position automatically gets smaller. See our risk management guide.
3. **Trailing stops.** A trailing stop set at a multiple of ATR below the highest price (often called a chandelier exit) lets you stay in trends while locking in profits.

Common mistakes

- **Reading ATR as a bullish or bearish signal.** It measures size, not direction.
- **Using the same stop distance in every market.** A 20-point stop can be tiny on one index and huge on another; ATR fixes that.
- **Ignoring ATR spikes** around news. Volatility can jump suddenly around data releases and central bank decisions.

Works well with

- **Bollinger Bands**, which also reflect volatility.
- **Any entry signal**, since ATR mainly helps with exits and sizing.

Quick summary

- ATR measures average price movement per bar.
- It's a risk management tool: use it for stops, sizing and trailing exits.
- It tells you nothing about direction.

INDICATOR 7 *Trend strength*

ADX Explained: How to Tell if a Market Is Really Trending

Many indicators only work in trending markets. ADX answers the question you should ask first: is there actually a trend?



What it is

The Average Directional Index (ADX) was developed by J. Welles Wilder and published in 1978, together with the Directional Movement Index (DMI). ADX measures the **strength** of a trend, whether it's up or down. The two DMI lines, +DI and -DI, show the **direction**.

How it's calculated

- **+DI** measures how strongly price is pushing to new highs; **-DI** measures how strongly it's pushing to new lows. Both are smoothed over 14 periods and expressed relative to the average true range.
- **ADX** is a smoothed average of the difference between +DI and -DI, scaled from 0 to 100. The bigger the gap between the two lines, the higher the ADX.

Default settings

14 periods. A reading of 25 is the most common threshold.

How to read it

- **ADX below 20:** weak or no trend. The market is likely moving sideways.
- **ADX above 25:** a trend is in place. Above 40, it's strong.
- **Rising ADX:** the trend is getting stronger. **Falling ADX:** it's losing strength, even if prices still move in the same direction.

- **+DI above -DI:** buyers are in control. **-DI above +DI:** sellers are.

Three practical ways to use it

1. **Pick the right strategy.** When ADX is above 25, favour trend tools such as moving averages and MACD. When it's below 20, range tools such as the stochastic and Bollinger Bands tend to work better.
2. **DI crossovers with a filter.** A cross of +DI above -DI is a bullish signal, but it's more reliable when ADX is rising and above 20 to 25.
3. **Spotting tired trends.** When ADX peaks at a high level and starts to turn down, the trend may be entering a pause or consolidation. It's a cue to tighten stops rather than add to positions.

Common mistakes

- **Reading a high ADX as bullish.** A falling market with a strong trend also has a high ADX. Always check +DI and -DI for direction.
- **Expecting early signals.** ADX is heavily smoothed and slow to react.
- **Trading DI crossovers when ADX is low.** In flat markets, the lines cross often and mean little.

Works well with

- **Trend indicators** (moving averages, MACD) when ADX is high.
- **Oscillators** (RSI, stochastic) when ADX is low.

Quick summary

- ADX measures trend strength from 0 to 100; +DI and -DI show direction.
- Above 25 suggests a trend; below 20 suggests a range.
- Use it to decide which tools to trust, not as a stand-alone signal.

INDICATOR 8 *Trend*

Ichimoku Cloud Explained: The Five Lines Made Simple

Ichimoku looks complicated at first: five lines and a coloured cloud. But it answers three simple questions at a glance: what's the trend, where is support, and how strong is the move?



What it is

Ichimoku Kinko Hyo, roughly "one glance equilibrium chart", was developed by Japanese journalist Goichi Hosoda and published in 1969. It's a complete trend system that combines trend direction, momentum and support and resistance.

The five lines

- **Tenkan-sen (conversion line):** the midpoint of the highest high and lowest low of the last 9 periods. A fast line.
- **Kijun-sen (base line):** the same calculation over 26 periods. A slower line, often acting as support or resistance.
- **Senkou Span A:** the average of Tenkan and Kijun, plotted 26 periods ahead.
- **Senkou Span B:** the midpoint of the last 52 periods, plotted 26 periods ahead.
- **Chikou Span (lagging line):** today's close, plotted 26 periods back.

The space between Span A and Span B is the **cloud** (kumo). It's green (bullish) when Span A is above Span B and red (bearish) when it's below.

Default settings

9, 26 and 52. They come from the Japanese trading week of the time, and most traders still use them.

How to read it

- **Price above the cloud:** uptrend. **Below the cloud:** downtrend. **Inside the cloud:** no clear trend.
- **A thick cloud** is strong support or resistance. **A thin cloud** is easier to break.

- **The cloud ahead of price** gives a view of future support and resistance.

Three practical ways to use it

1. **Trend filter.** Only look for long trades when price is above the cloud and the cloud ahead is green; only short trades when price is below a red cloud.
2. **Tenkan and Kijun crossover.** When the Tenkan-sen crosses above the Kijun-sen, momentum turns up. The signal is strongest when it happens above the cloud.
3. **Pullbacks to the Kijun-sen.** In a trend, price often pulls back to the base line before continuing. A bounce from it can be an entry point.

Common mistakes

- **Using it on very short timeframes,** where the lines whipsaw. Ichimoku works best on 4-hour, daily and weekly charts.
- **Acting on one line alone.** The strength of Ichimoku is that the lines confirm each other.
- **Trading inside the cloud,** where the trend is undecided.

Works well with

- **ADX** to confirm trend strength.
- **RSI** to spot divergence before a cloud break.

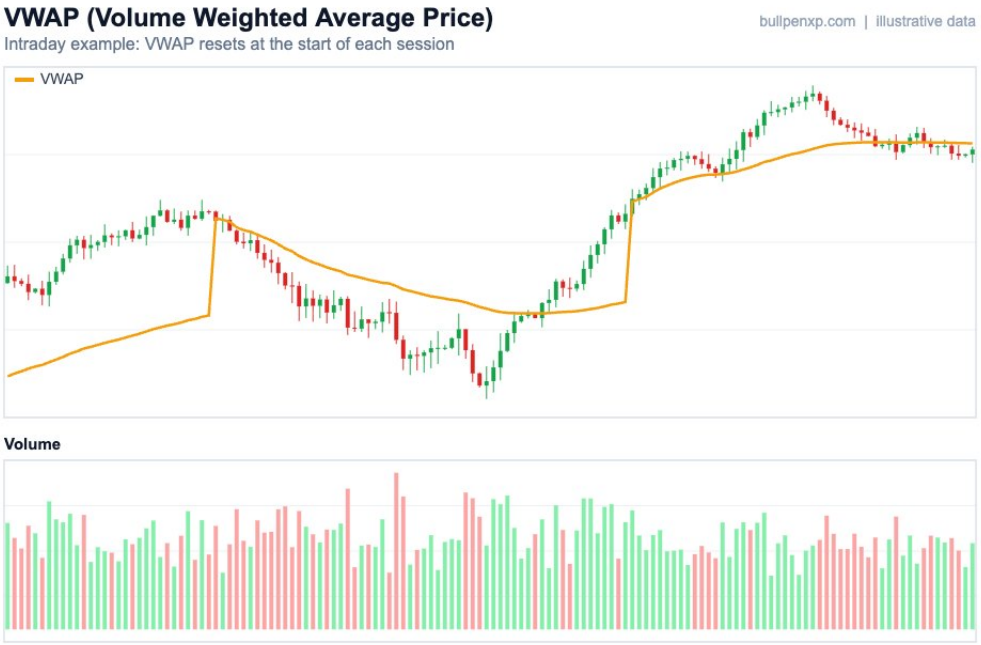
Quick summary

- Ichimoku combines trend, momentum and support in one view.
- Price above a green cloud is bullish; below a red cloud is bearish.
- Look for several lines agreeing before acting.

INDICATOR 9 *Volume and price*

VWAP Explained: Volume Weighted Average Price for Day Traders

VWAP shows the average price traders have paid during the day, weighted by volume. Big institutions use it as a benchmark, which is exactly why it matters to everyone else.



What it is

VWAP stands for Volume Weighted Average Price. It's the average price of all trades during a session, where prices with more volume count more. It's mainly an intraday tool: it starts fresh at the beginning of each trading day.

How it's calculated

1. For each bar, take the typical price: (high + low + close) divided by 3.
2. Multiply it by that bar's volume.
3. Add up these values since the session started and divide by the total volume since the start.

Because it's cumulative, VWAP moves a lot early in the session and becomes steadier as the day goes on.

Default settings

There's no period to choose. VWAP resets every session. Many platforms also offer **anchored VWAP**, which starts from a point you choose, such as an earnings release or a major low.

How to read it

- **Price above VWAP:** buyers have been in control during the session; the average buyer is in profit.
- **Price below VWAP:** sellers have the upper hand.
- **Price crossing VWAP repeatedly:** a balanced, rangebound day.

Three practical ways to use it

1. **Intraday bias.** Many day traders only look for long trades above VWAP and short trades below it. It's a quick way to stay on the side of the day's flow.
2. **Pullback entries.** In a strong trending day, price often pulls back to VWAP before continuing. A bounce from VWAP with rising volume can be an entry.
3. **Execution benchmark.** Institutions measure the quality of their trades against VWAP. If you buy below VWAP, you paid less than the day's average price.

Common mistakes

- **Using VWAP on daily or weekly charts** without anchoring it. Standard VWAP is built for one session.
- **Treating it as a guaranteed support level.** On news days, price can slice through VWAP and keep going.
- **Ignoring volume.** VWAP is only meaningful in markets with reliable volume data. Spot forex, for example, has no central volume figure, so VWAP there is based on broker data only.

Works well with

- **On-Balance Volume** to check whether volume supports the move.
- **Moving averages** on higher timeframes for the bigger trend.

Quick summary

- VWAP is the volume-weighted average price of the session.
- Above VWAP favours buyers, below favours sellers.
- It's an intraday tool and a benchmark used by institutions.

INDICATOR 10 *Volume*

On-Balance Volume (OBV): How to Read Volume Behind a Trend

Price tells you what happened. Volume tells you how much conviction was behind it. On-Balance Volume turns that idea into a single line.



What it is

On-Balance Volume was introduced by Joe Granville in his 1963 book on stock market timing. The idea is that volume often moves before price: when big investors are quietly buying, volume on up days rises before the price breaks out.

How it's calculated

- If today's close is higher than yesterday's, **add** today's volume to OBV.
- If it's lower, **subtract** today's volume.
- If it's unchanged, OBV stays the same.

The result is a running total. The actual number doesn't matter; it depends on where you start counting. What matters is the **direction** of the line.

Default settings

None. OBV has no period setting. Some traders add a moving average of OBV (for example 20 periods) to smooth it.

How to read it

- **OBV rising with price:** volume confirms the uptrend.
- **OBV falling with price:** volume confirms the downtrend.
- **OBV flat while price rises:** the rally lacks volume support and may be weak.

Three practical ways to use it

1. **Confirming trends.** A healthy uptrend shows OBV making higher highs together with price. If both rise, the move has broad support.
2. **Divergence.** If price makes a new high but OBV doesn't, fewer buyers are participating. That's a warning. If price makes a new low but OBV holds higher, selling is drying up.
3. **OBV breakouts.** Sometimes OBV breaks above a previous high before price does. Traders watch this as an early sign that a price breakout may follow.

Common mistakes

- **Looking at the OBV number itself.** Only the trend and the highs and lows of the line matter.
- **Ignoring volume spikes.** One huge volume day (for example around earnings or index changes) can distort OBV for a long time.
- **Using it in markets without real volume data,** such as spot forex.

Works well with

- **VWAP** for intraday volume analysis.
- **Moving averages** or **MACD** to define the price trend that OBV should confirm.

Quick summary

- OBV adds volume on up days and subtracts it on down days.
- Watch its direction and divergences, not its level.
- It works best on stocks, ETFs and futures with reliable volume.

Important notice

This guide is for educational purposes only and is not investment advice or a recommendation to buy or sell any financial instrument. Charts use illustrative data. Indicators describe what price and volume have done; they do not predict the future, and no indicator works every time. Trading leveraged products such as CFDs carries a high risk of losing money rapidly. Only trade with money you can afford to lose. Prepared with AI assistance by BullpenXP, published by KEDM Media Kft. (Budapest, Hungary).