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.

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