Chart Smart

The Complete Technical Indicators Guide for Traders

Behind every great trade lies insight — not intuition.

This manual was created to help you *see what the markets are really saying* through the language of technical indicators.

Inside, you'll find a clear, practical reference to the most widely used indicators — from momentum and volatility to trend and volume analysis — all explained in plain English, with examples you can test in **TradingExpert Pro.**

Whether you trade stocks, ETFs, or options, this guide gives you the knowledge to:

✅ Understand what each indicator measures and why it matters
✅ Combine multiple signals for stronger confirmation
✅ Avoid common interpretation errors
✅ Build data-driven confidence in your trading process

Use it as your go-to technical companion — a bridge between theory and real-world application — and turn raw chart data into actionable trading insight.

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Chapter 1: 21-Day High and 21-Day Low

The 21-Day High and 21-Day Low indicators track the highest and lowest prices over the most recent 21 trading days. These simple yet effective tools identify short-term price ranges and potential breakout levels.

When price breaks above the 21-day high, it signals bullish momentum and potential upside continuation. Conversely, when price falls below the 21-day low, bearish momentum takes control, suggesting further downside potential.

These levels function as natural support and resistance zones. Traders watch for breakouts beyond these boundaries as confirmation of trend strength. The indicators help identify consolidation patterns—when the 21-day high and low converge, price is consolidating and a significant move often follows the eventual breakout.
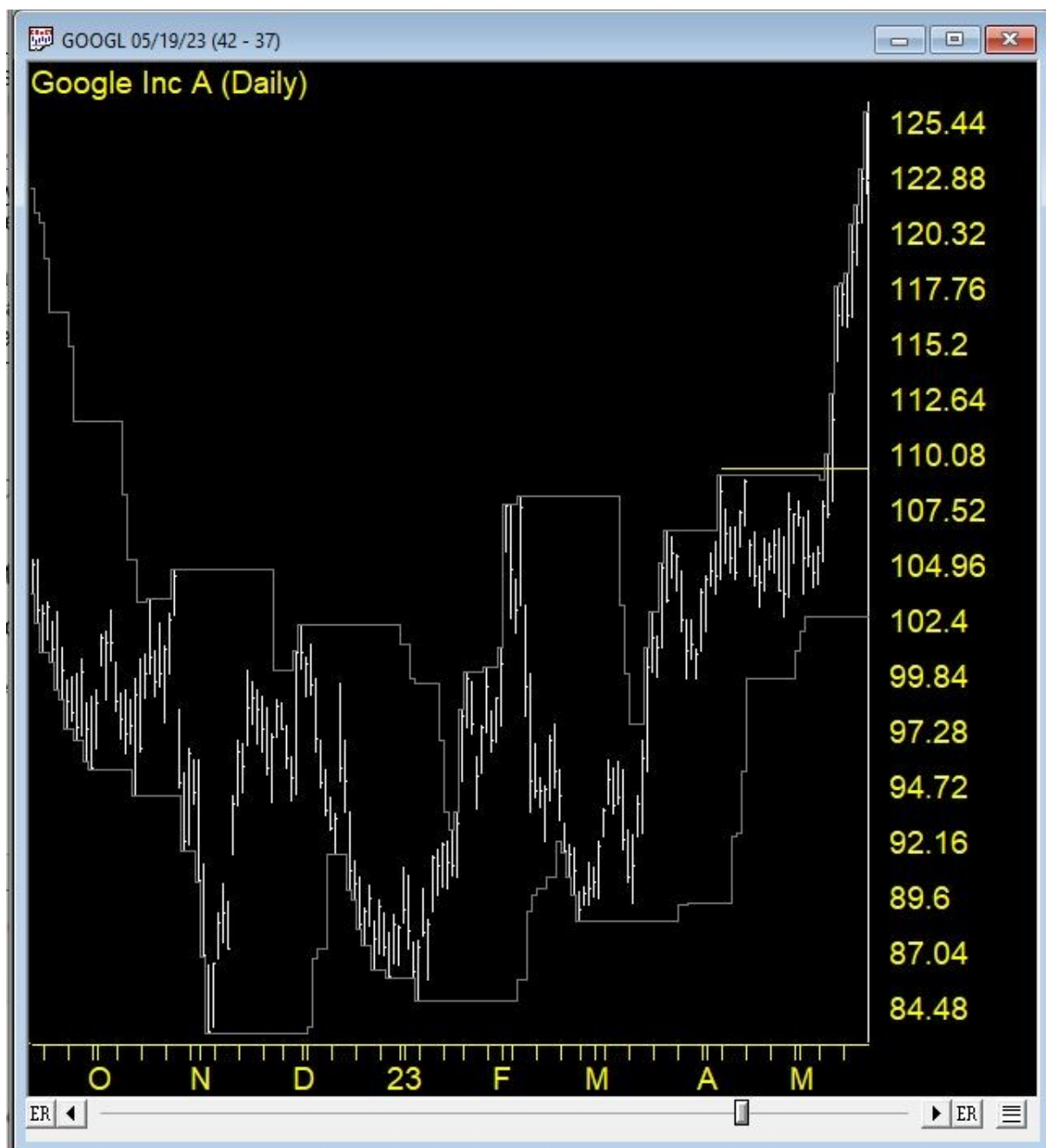
GOOGL on 5-19-23 with prices breaking through the 21-day high indicator after a consolidation period

MATT on 3-08-25 with prices breaking below the 21-day low continuing the downside momentum

STX on 4-2-25 with 21-day high and 21-day low very close together prior to the massive move up in price

Generally Accepted Input Values

Lookback Period: The number of days to evaluate for high/low determination. Default is 21 days (range: 5-250 days). Common alternatives include 10 days for very short-term and 63 days (approximately 3 months) for intermediate-term ranges.

Chapter 2: Accumulation/Distribution

The Accumulation/Distribution indicator is a momentum-based tool that correlates price changes with trading volume. The underlying principle is that higher volume accompanying a price movement indicates a more significant and sustainable price change.

This indicator is a refined version of the widely used On Balance Volume indicator. Both attempt to validate price movements by analyzing the relationship between price action and volume patterns.

When the Accumulation/Distribution line trends upward, it signals accumulation, indicating that the majority of volume is associated with buying pressure. Conversely, when the line trends downward, it reveals distribution, showing that most volume accompanies selling pressure.

Divergences between the Accumulation/Distribution indicator and price action suggest an impending reversal. When divergence occurs, prices typically adjust to confirm the indicator's direction. For instance, if the indicator is rising while price is falling, a bullish reversal is likely.

FOX on 3-3-25 with prices at new high not confirmed by Accumulation/Distribution indicator, prices moved down the next day

GILD on 8-11-25 with prices at new high not confirmed by Accumulation/Distribution indicator at new high, prices moved down next day

When analyzing the Accumulation/Distribution indicator, look for divergences and nonconformations. Divergences occur when the price trend and indicator trend move in opposite directions. A nonconformation happens when price achieves a new high or low that isn't matched by a corresponding extreme in the indicator.

For example, in a classic divergence scenario, while prices decline during a specific period, the Accumulation/Distribution indicator may trend positive. This divergence often signals an upcoming rally in the stock price.

Generally Accepted Input Values

The Accumulation/Distribution indicator uses no adjustable parameters.

Chapter 3: Advance/Decline Indicator

The Advance/Decline Indicator calculates an exponentially weighted average of net advancing versus declining issues. For this indicator, the trend direction matters more than the absolute value.

When the indicator is rising, advancing issues outweigh declining ones. When falling, declining issues dominate the market.

The Advance/Decline Indicator functions as a market breadth indicator, similar to the Advance/Decline Line. However, this version demonstrates higher sensitivity and often generates signals earlier than its counterpart.

Dow Jones 30 with breadth off the New York market on 10-3-25 showing divergence between Ad Indicator and price action prior to the correction

Market timing charts demonstrate the sensitivity of the Advance/Decline Indicator. For example, when a major index retests a previous low, if the Advance/Decline Indicator fails to reach its prior low, this nonconformation often signals an impending upward move.

Generally Accepted Input Values

The smoothing constant for the exponential average is expressed as the number of days represented by the average and may be adjusted. The default value is 27 days with a permissible range of 1-200 days.

Chapter 4: Advance/Decline Line

This classic indicator calculates the difference between daily advances and declines, adding the result to the previous day's cumulative total. The Advance/Decline Line serves as an excellent measure of overall market strength, tracking broad market movements and often leading major indices in directional changes. A break in the A/D Line frequently signals a future break in average prices.

Dow Jones 30 with breadth off the New York market on 10-3-25 showing divergence between Ad Line and price action prior to the correction
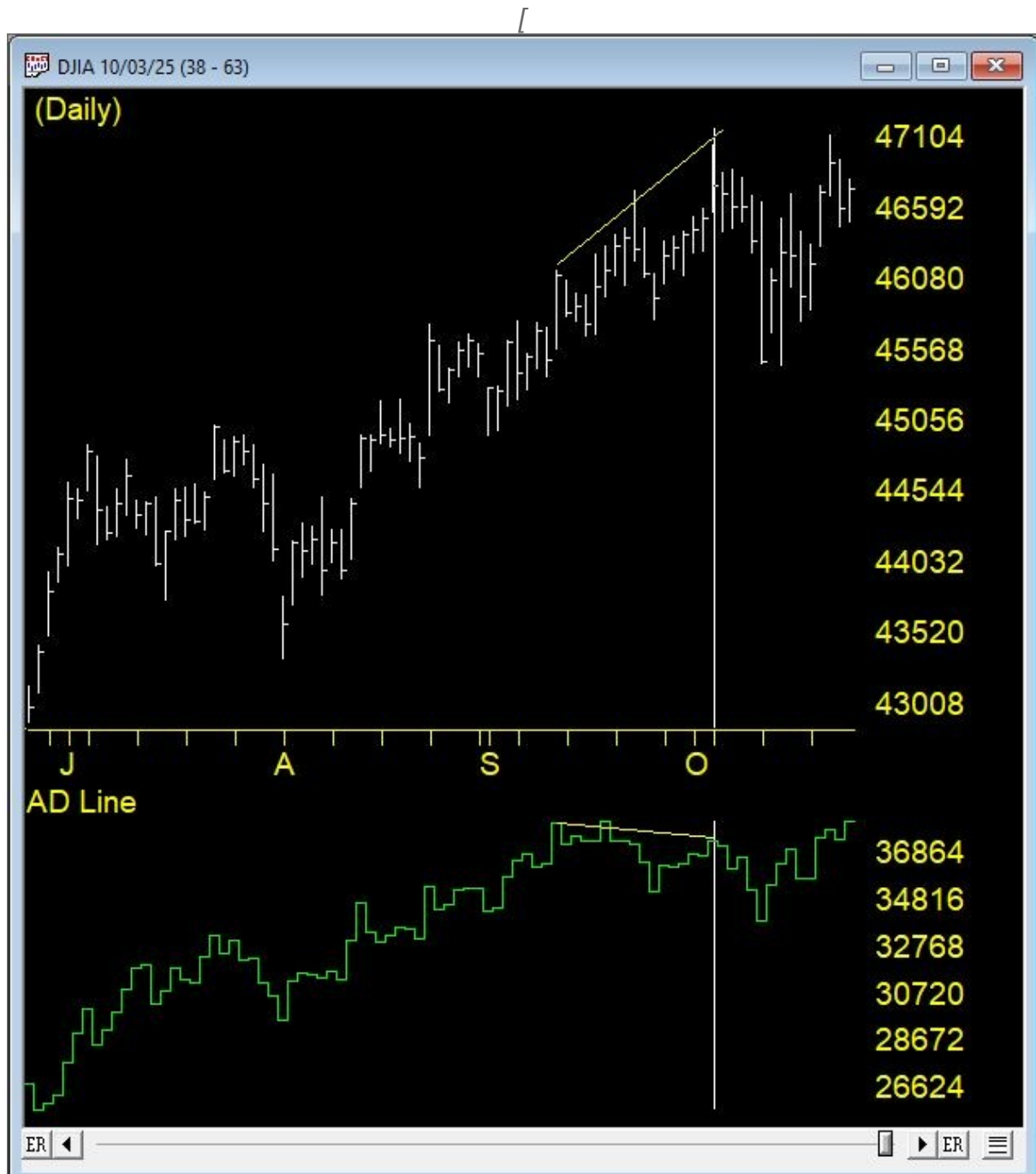
Historical market analysis reveals the predictive power of this indicator. When major indices remain flat over several months while the Advance/Decline Line declines, this divergence often precedes market weakness.

Generally Accepted Input Values

The Advance/Decline Line indicator uses no adjustable parameters.

Chapter 5: Advance/Decline Oscillator

An oscillator measures the percentage difference between two exponentially smoothed averages. The Advance/Decline Oscillator, developed from the McClellan Oscillator methodology, represents the difference between long-term and short-term advance/decline moving averages. It calculates by subtracting daily declines from advances, then averaging these values over both short-term and long-term periods. The oscillator displays the difference between these two averages.

Dow Jones 30 with breadth off the New York market on 10-3-25 showing divergence between Ad Osc and price action prior to the correction

Monitor for nonconformities where price extremes don't align with indicator extremes. When the oscillator moves into negative territory during market testing of lows, this action often precedes sharp market declines.

Generally Accepted Input Values

The smoothing constants for the two advance/decline averages are expressed as the number of days represented by each average and may be adjusted:

Short Term: 19 (range: 1-350) Long Term: 39 (range: 2-400)

Chapter 6: ADX Rate

ADX Rate is a trend indicator measuring the rate of change in ADX using least squares methodology. It calculates as the slope of the line that best fits the data over a specified time period.

ADX Rate identifies short-term changes in trend strength. The indicator oscillates around the zero line as trends strengthen and weaken. When the indicator rises above zero, a trend is developing. When falling, the trend is weakening. High positive values indicate strong trends, while low negative values suggest non-trending, range-bound conditions.

DLTR with ADX rate strongly positive in early September and October 2025 indicating strong trend in place

Generally Accepted Input Values

The time period for slope calculation is adjustable. The default value is 14 days with a permissible range of 1 to 50 days.

Chapter 7: Average Directional Movement Index

The Average Directional Movement Index (ADXR) measures trend strength. The ADXR helps determine when prices are trending strongly. Rising ADXR values indicate strengthening trends in either direction, while falling ADXR readings warn that trends are weakening and prices may enter consolidation.

Readings near zero suggest weak trends or range-bound conditions with minimal directional strength. Readings above 30% indicate strong trending activity.

LRCX with ADXR above 25 in September 2025 with trend in place and below 25 before that and no trend in place

Generally, ADXR values above 25 indicate significant directional movement and favorable trading opportunities. Many charting platforms display this threshold as a horizontal reference line.

Generally Accepted Input Values

The primary parameter is the time period for data averaging. The default value of 14 days is based on Wilder's original research. The permissible range is 1 to 55 days.

Chapter 8: Bollinger Bands

Bollinger Bands, developed by John Bollinger, consist of a moving average with upper and lower bands positioned at standard deviation intervals above and below the average. These bands dynamically adjust to market volatility, expanding during volatile periods and contracting during calm periods.

The bands serve multiple purposes: identifying overbought and oversold conditions, detecting volatility changes, and spotting potential breakouts. When prices touch or exceed the upper band, the ticker may be overbought. When prices touch or fall below the lower band, oversold conditions may exist.

The key concept behind Bollinger Bands is that prices tend to remain within the bands. Moves that break out beyond the bands signal significant price action and potential trend changes. The bands also provide a relative definition of high and low prices—prices near the upper band are relatively high, while prices near the lower band are relatively low.

Volatility measurement forms another critical function. As volatility increases, the bands widen. As volatility decreases, the bands narrow. Periods of low volatility, indicated by narrow bands, often precede periods of high volatility. Traders watch for band squeezes—when bands come very close together—as signals of impending significant price moves.
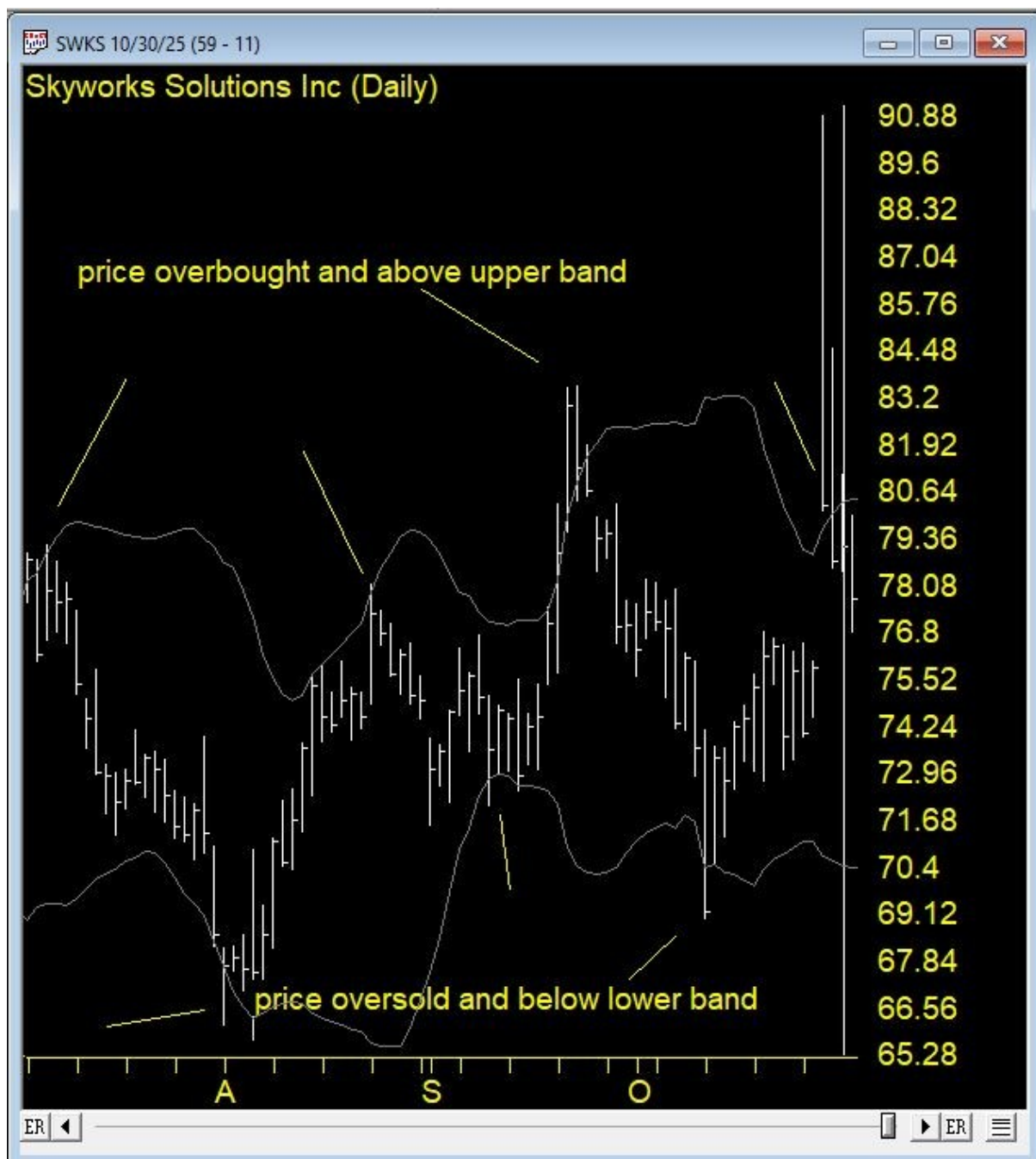
SWKS with Upper and Lower Bands showing overbought and oversold prices cutting through the bands prior to change in direction

ROST with Upper and Lower Bands showing narrowing bands prior to the move upon 7-15-25

Historical chart analysis reveals Bollinger Bands' effectiveness. When bands narrow during consolidation periods followed by volatility expansion, significant price moves often follow. During strong trends, prices may ride along one band for extended periods.

Generally Accepted Input Values

Three parameters define Bollinger Bands:

Moving Average Period: The time period for the center line calculation. Default is 20 days (range: 1-200). Standard Deviation: The number of standard deviations for band placement. Default is 2.0 (range: 0.5-5.0). Moving Average Type: Simple moving average is standard, though exponential is also used.

Chapter 9: Commodity Channel Index

The Commodity Channel Index (CCI) is a price momentum indicator developed by Donald R. Lambert. Despite its name, the indicator applies equally well to stocks, futures, and other tradable instruments.

CCI creates an index similar to a statistical z-score, measuring price deviations from the mean as statistical variations. According to Lambert, normal random fluctuations fall within a channel between +100% and -100%. Movements beyond this channel are considered non-random and represent potential trading opportunities.

The CCI trading strategy involves buying when the indicator rises above +100% and selling when it falls below +100%. For short positions, sell when CCI drops below -100% and cover when it rises above -100%.
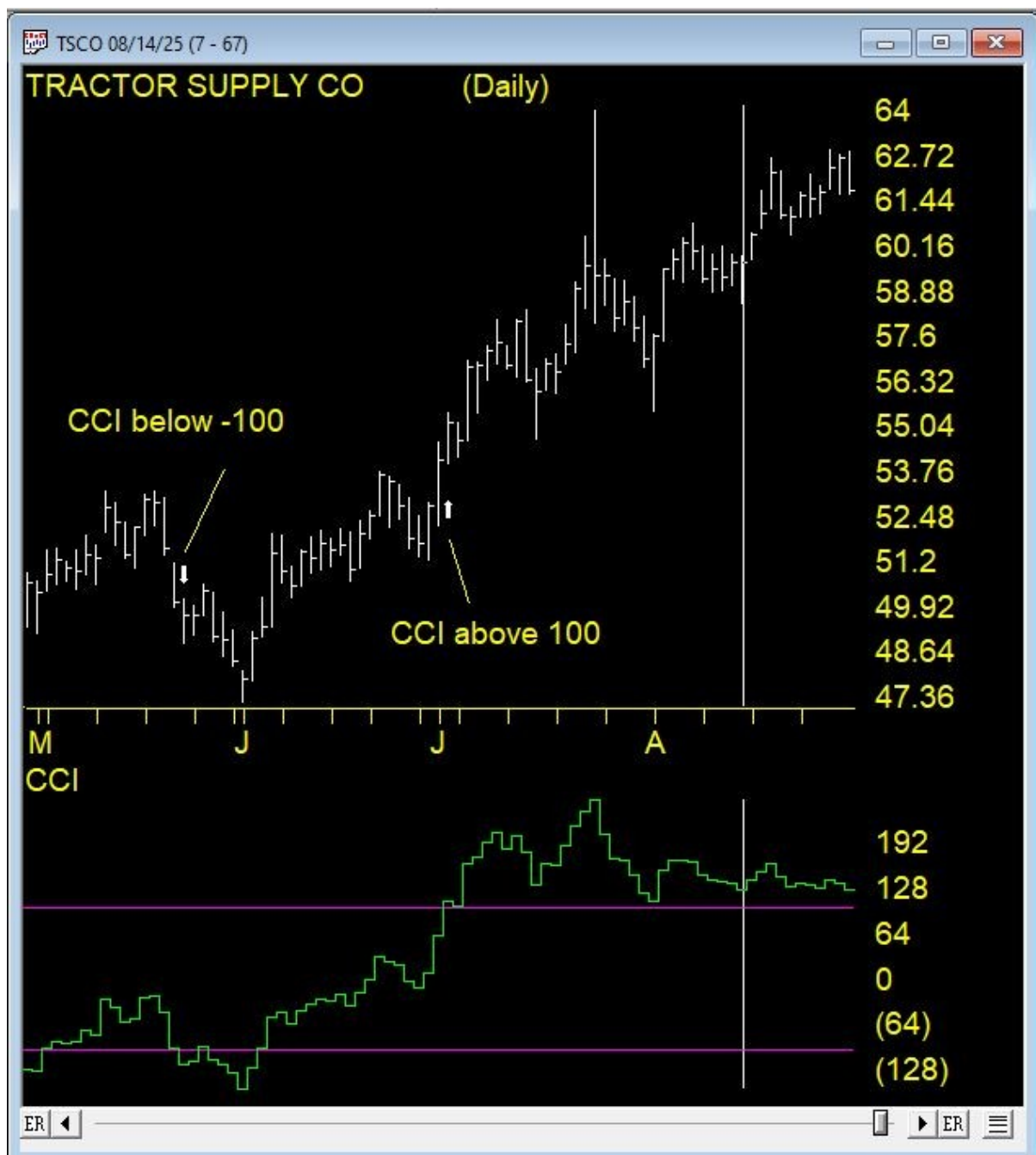
TSCO with CCI below -100 in May 2025 for a short signal and above 100 early July 2025 for a long signal

Generally Accepted Input Values

The moving average time period is adjustable. The default value is 90 days with a permissible range of 1 to 100 days.

Chapter 10: Exponentially Smoothed Average Trading Bands

Exponentially Smoothed Average (ESA) Trading Bands create a channel around price action using an exponentially smoothed moving average as the centerline, with parallel bands placed at fixed percentage distances above and below.

Unlike Bollinger Bands which use standard deviations, ESA bands maintain constant percentage-based distances from the center line. This fixed-width approach provides consistent reference points for identifying relative price extremes.

The exponential smoothing gives more weight to recent price data, making the bands more responsive to current market conditions compared to simple moving average bands. This responsiveness helps traders identify trend changes earlier.

AAL with Upper and Lower ESA Bands at default values. Notice pullbacks from cutting through Upper Band and Bounce off Lower Band

Generally Accepted Input Values

Moving Average Period: The smoothing period for the exponential average. Default is 28 days (range: 1-200). Band Percentage: The percentage distance of bands from the center line. Default is 10% (range: 1%-20%).

Chapter 11: Exponentially Smoothed Averages

Exponentially Smoothed Averages (ESA) apply exponential weighting to price data, giving greater importance to recent prices while still incorporating historical data. This methodology smooths random price fluctuations while remaining responsive to legitimate trend changes.

The exponential calculation provides a weighted average where the most recent data receives maximum weight, with weights decreasing exponentially for older data. This creates a moving average that reacts more quickly to price changes than simple moving averages.

Exponentially Smoothed Averages serve multiple trading timeframes. Short-term averages (5-20 days) identify immediate price trends and momentum. Intermediate-term averages (21-60 days) reveal developing trends and potential trend changes. Long-term averages (60+ days) define major market direction and long-term support/resistance.

The ESA responds to support and resistance levels more effectively than simple averages. Prices tend to find support at rising ESAs during uptrends and resistance at declining ESAs during downtrends. Historically, support and resistance will prevail until a breakout occurs. A price breaking through an ESA line often signals a trend reversal.

Multiple ESAs with different periods provide comprehensive market analysis. When short-term averages cross above long-term averages, bullish signals emerge. Bearish signals occur when short-term averages cross below long-term averages. The relationship between price and multiple ESAs helps determine trend strength and sustainability.
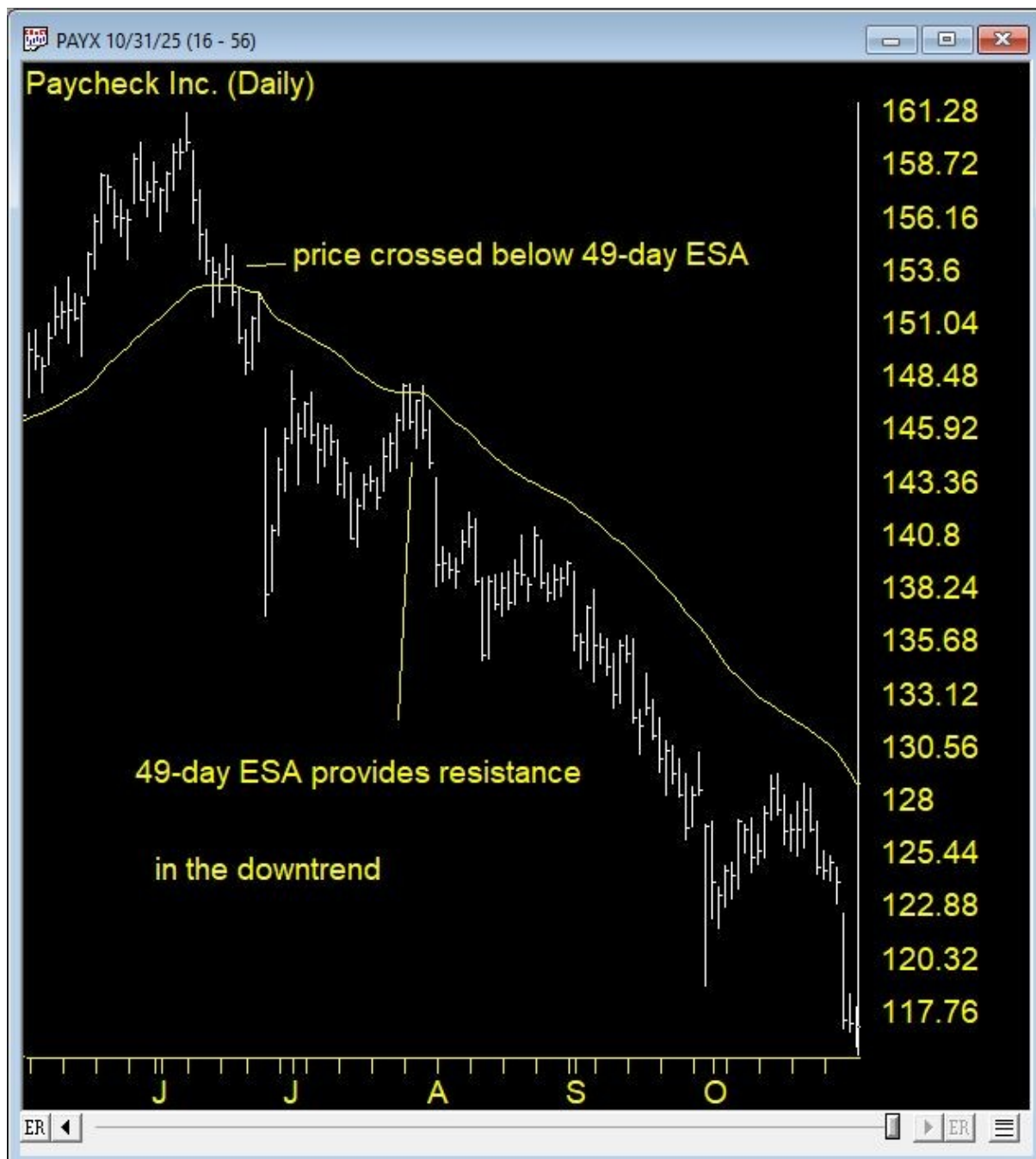
PAYX with 49-day ESA showing cut below the line mid-June 2025 and test and fail of 49-day ESA in late July 2025

PAYX with 28-day ESA showing price support for the rally from early March to late August 2025

ACHC with 10-day and 28-day ESA lines crossing the 49-day ESA indicating a buying opportunity 9-23-25

Generally Accepted Input Values

Short-term ESA: 5-20 days (default: 10 days) Intermediate-term ESA: 21-60 days (default: 28 days) Long-term ESA: up to 200 days (default: 49 days)

Chapter 12: Moving Average Trading Bands

Moving Average Trading Bands construct a price channel using a simple moving average as the centerline, with bands positioned at fixed percentage intervals above and below the average.

These bands provide a straightforward method for identifying when prices deviate significantly from their average. The simple moving average calculation treats all data points equally within the period, offering a smooth, stable reference line.

Traders use these bands to identify potential reversal points. When prices reach the upper band, selling pressure may increase. When prices touch the lower band, buying opportunities may emerge. The bands also help visualize the trading range during sideways markets.

ADEA with 20-day Upper and Lower average bands showing how the bands offer reversals when price touches or cuts the bands

Generally Accepted Input Values

Moving Average Period: The calculation period for the simple moving average. Default is 20 days (range: 1-200). Band Percentage: The percentage distance of bands from the center line. Default is 10% (range: 1%-20%).

Chapter 13: Moving Averages

Moving Averages represent one of the oldest and most widely used technical analysis tools. A moving average calculates the arithmetic mean of prices over a specified period, creating a smooth line that filters out short-term price noise while revealing the underlying trend.

The simple moving average treats all data points equally. Each day, the oldest price drops from the calculation and the newest price is added. This equal-weighting approach provides stability but responds more slowly to price changes than exponential averages.

Moving Averages function as dynamic support and resistance levels. During uptrends, prices tend to find support when declining to the moving average. During downtrends, the moving average often acts as resistance when prices rally.

Traders commonly use three timeframes: short-term (5-20 days) for active trading, intermediate-term (21-50 days) for swing trading, and long-term (50-200 days) for trend identification. The 50-day and 200-day moving averages are particularly significant benchmarks watched by institutional traders.

Like Exponentially Smoothed Averages, Moving Averages generate trading signals through crossovers and price relationships. Golden crosses (short-term average crossing above long-term average) signal bullish conditions. Death crosses (short-term crossing below long-term) signal bearish conditions. These crossover signals work best when confirmed by price action and volume.

GRMN crossed the 100 MA late October 2024 and trends up and above the 100 day MA providing support

HAFC the 21 MA crosses to above the 50-day MA in July 2025 signaling a trend up

HAL showing the 21-day MA providing support in the uptrend until a solid break down and the 21 day MA then provides resistance

Chart analysis demonstrates moving average effectiveness. Different period lengths suit different trading styles. Short periods respond quickly but generate more false signals. Long periods provide reliable trend identification but lag significantly behind price action. The optimal period depends on trading timeframe and market conditions.

Generally Accepted Input Values

Short-term MA: 5-20 days (default: 20 days) Intermediate-term MA: 21-60 days (default: 50 days) Long-term MA: 60-250 days (default: 100 days)

Chapter 14: Parabolic Stop and Reversal

The Parabolic Stop and Reversal (SAR), developed by J. Welles Wilder, provides a trailing stop-loss system that follows price trends. The SAR appears as dots plotted above or below price, indicating potential stop-loss levels and trend direction.

When SAR dots appear below price, an uptrend is active, and the dots mark progressive stop-loss levels. When dots appear above price, a downtrend prevails, with dots marking short-position stops. The SAR continuously adjusts, moving in the trend direction but never reversing against the trend until a reversal occurs.

The SAR accelerates as trends mature. Initially, the dots move slowly, allowing room for normal price fluctuations. As the trend continues, the SAR accelerates closer to price, tightening the stop-loss level. This acceleration feature helps lock in profits during strong trends while giving early trends room to develop.

Position traders use the SAR as a trailing stop-loss guide. When price crosses the SAR level, it signals both an exit from the current position and a potential entry in the opposite direction. The indicator excels in trending markets but generates frequent false signals in sideways, range-bound conditions.

The SAR works best when combined with trend-confirming indicators. During strong trends identified by other indicators, SAR provides optimal stop-loss placement. During uncertain or choppy markets, traders may ignore SAR signals or use wider stop-loss parameters.
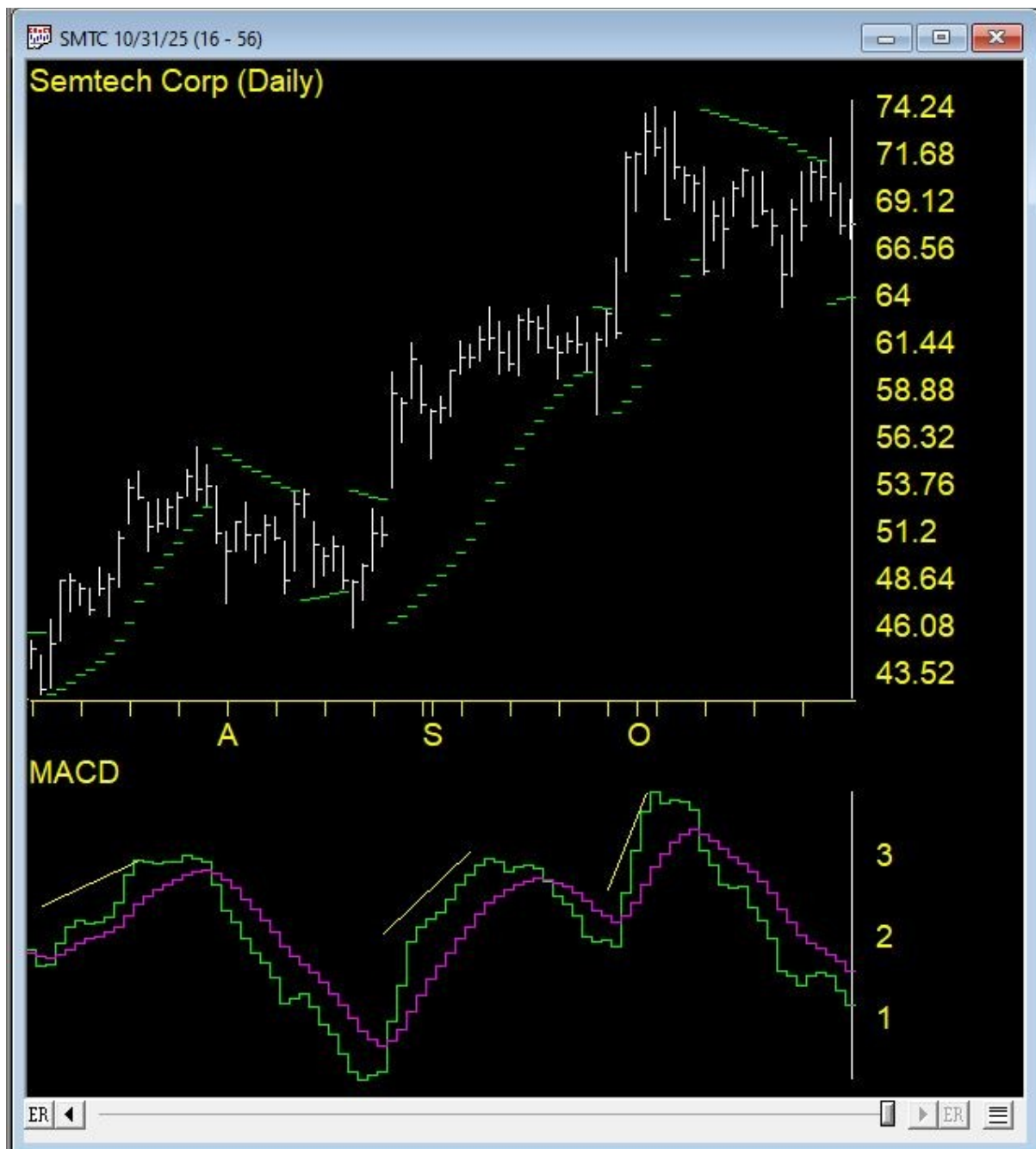
SMTC with SAR indicator when MACD is crossed over MACD signal line SAR acts as a stop when price drops below the SAR

Chart analysis reveals SAR performance across different market conditions. During sustained trends, SAR dots trail price smoothly, occasionally triggering stops that prove to be false signals before the trend resumes. In consolidation periods, SAR switches frequently between bullish and bearish, highlighting its trend-following nature.

Generally Accepted Input Values

Acceleration Factor: Controls how quickly the SAR approaches price. Default is 0.02 (range: 0.01-0.20). Maximum Acceleration: The maximum value the acceleration factor can reach. Default is 0.20 (range: 0.02-0.50).

Chapter 15: SK-SD Stochastics

This indicator represents the classic version of George Lane's stochastic formula, featuring two components. The SK component typically uses a 3-day moving average of the stochastic ratio as defined by Lane's basic formula. SK is then averaged again over the same period to create a double-smoothed average called SD.

While originally developed for futures trading, modern applications often use a 10-day average period to better accommodate stock market volatility and trading patterns.

SPG with SD component diverging down from price late September 2025

TDY with SK crossing SD indicating buy and sell points from June to October 2025

The SK component appears as the upper line during upward movements and the lower line during downward movements. The SD component displays inversely. In most charting software, SK appears in one color (often green) while SD appears in another (often purple or red).

The simplest interpretation: price trends typically reverse when SK diverges from price action.

For timing entries, buy signals generate when the SK line crosses above SD, and sell signals occur when SK crosses below SD. These signals strengthen when SD has already turned in the anticipated direction.

Generally Accepted Input Values

The smoothing constant for the moving average is expressed as the number of days represented by the average. The range is 1 to 100 days.

Chapter 16: Split Volume

Split Volume separates total volume into two components—up volume and down volume. On days when price advances, volume displays above the centerline. On days when price declines, volume displays below the centerline.

The key pattern to identify is the cluster: consecutive days above or below the centerline. A cluster of up days following a price decline typically signals bullish conditions. Conversely, a cluster of down days after an uptrend often indicates bearish pressure. Declining volume during a strong upward move becomes clearly visible, as does decreasing downside volume near price bottoms.
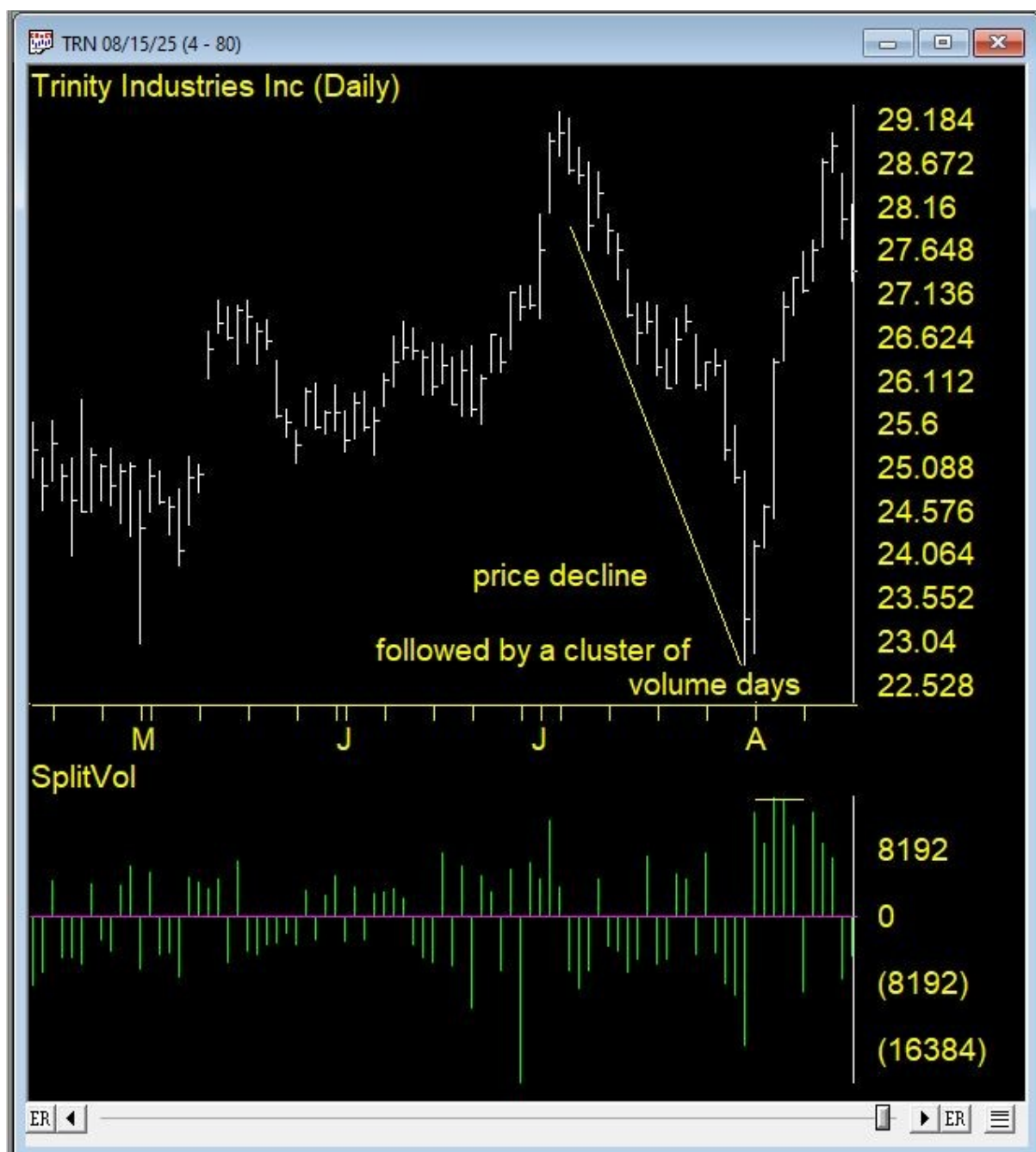
TRN with cluster of up volume days as prices move from the bottom in late July 2025
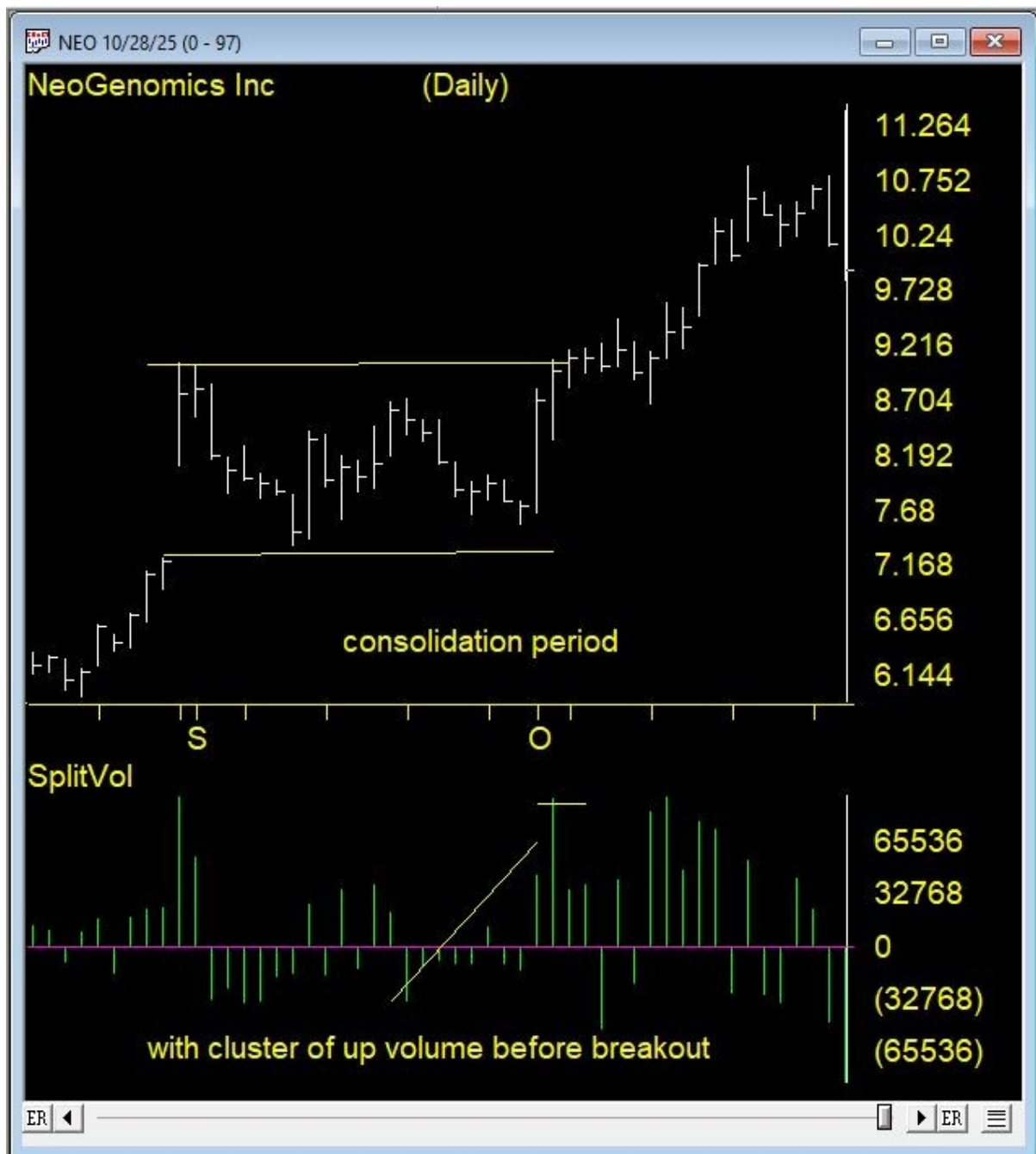
NEO in early October 2025 showing a cluster of up volume days prior to the breakout of the consolidation period

Historical examples show clusters of up volume coinciding with strong price advances. During consolidation periods, a few positive volume days may precede breakouts, followed by a cluster of positive days as the breakout develops. These volume clusters mark increasing strength in both price and volume action.

Generally Accepted Input Values

The Split Volume indicator uses no adjustable parameters.

Chapter 17: Split Volume Moving Average

SVMA is an exponentially smoothed moving average of Split Volume, functionally equivalent to a moving average of On-Balance Volume. The primary pattern to watch for is nonconformation between price movements and indicator movements. When trends diverge (fail to move in agreement), the indicator's direction often signals the next price direction.

When SVMA transitions from positive to negative, it generates a sell signal. Conversely, when SVMA moves from negative to positive, it produces a buy signal.
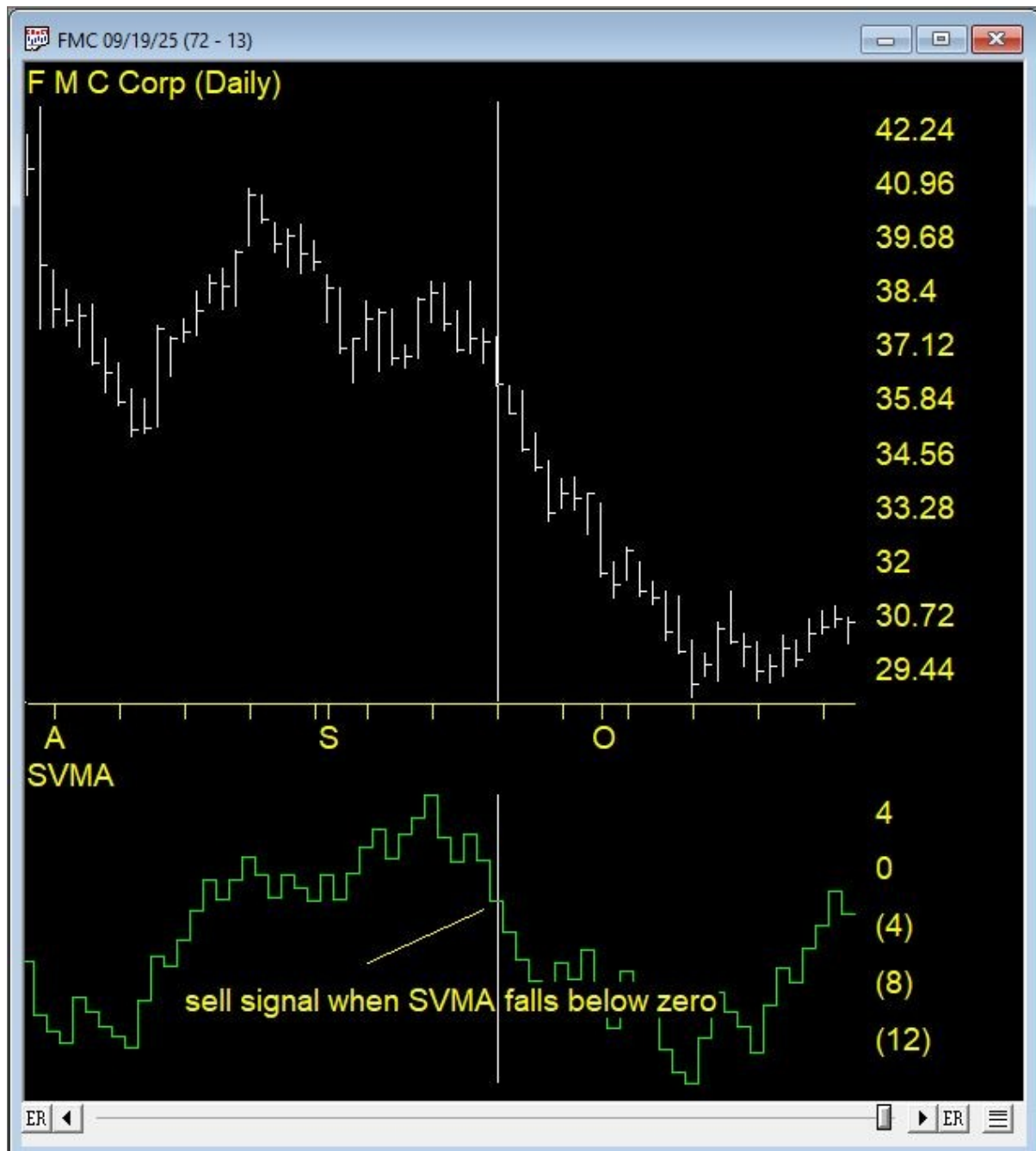
FMC in mid-September 2025 showing SVMA falling below zero confirming a down trend

The most valuable application involves using SVMA as a confirmation tool for trading signals. When a bearish signal appears but the stock continues higher, a topping and decreasing SVMA confirms the bearish outlook. This nonconformation of upward price movement validates the negative signal.

Generally Accepted Input Values

The moving average period is adjustable. The default value is 10 days with a permissible range of 1 to 100 days.

Chapter 18: Stochastic

The Stochastic indicator measures where the current close falls within the recent price range (typically 21 days). A value of 80% indicates the close is 80% of the way from the period's low to its high. A value of 20% shows the close is near the period's low.

Traditional analysis suggests buying when Stochastic falls into the 0%-20% range and selling when it rises into the 80%-100% range. However, this approach limits traders to buying bottoms and selling tops. While it may capture significant moves, it also generates numerous false signals during trending periods.

PFGC from late June to November 2025 showing clear limitations of the traditional overbought oversold signals

Modern trading systems often combine Stochastic readings with other technical signals to improve accuracy and reduce whipsaws during trending markets.
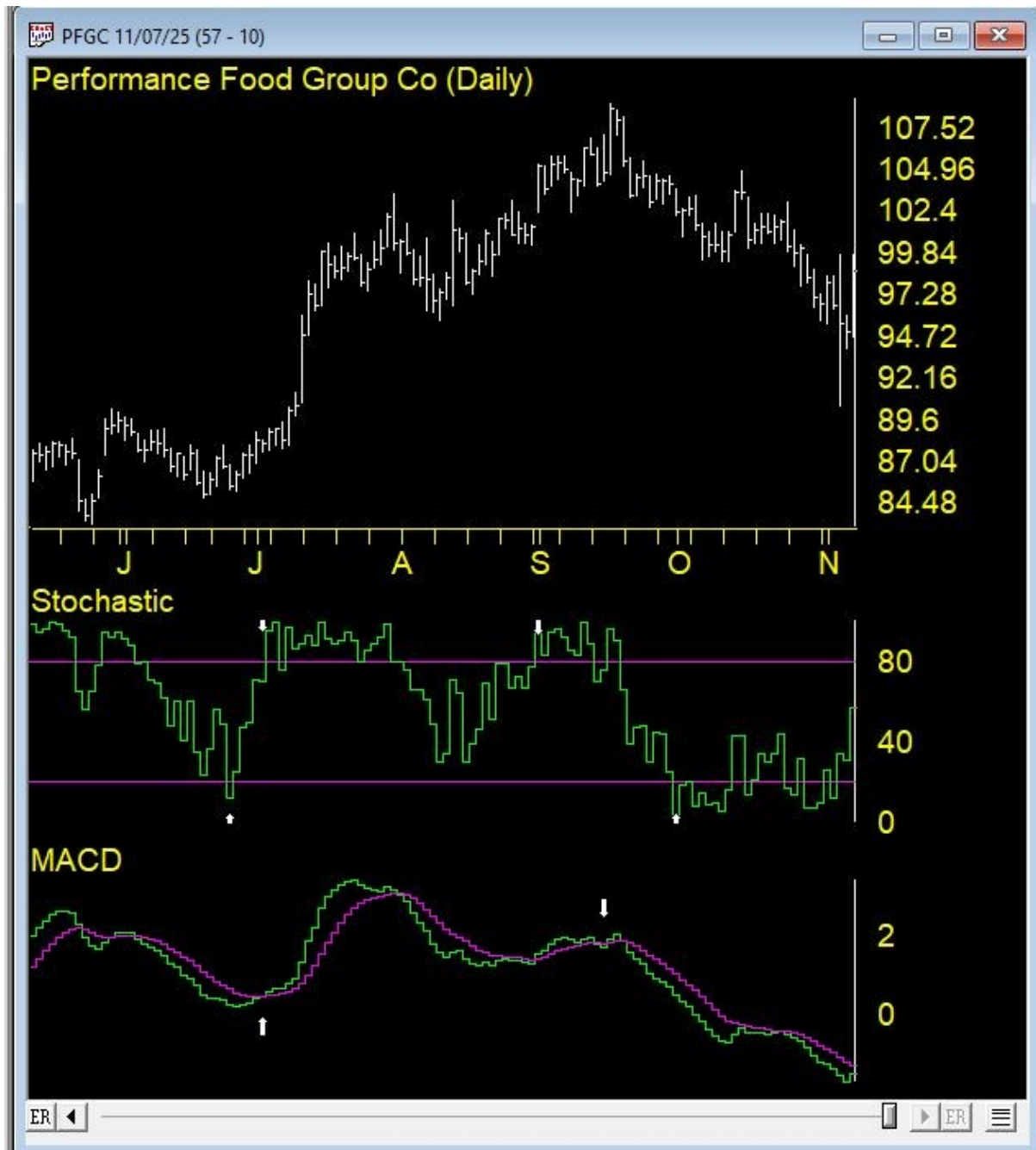
PFGC from late June to November 2025 with MACD crossover as confirmation only 2 signals are confirmed

Generally Accepted Input Values

The time period for price range determination is adjustable. Lane determined that 21 days represents the optimum period, making it the standard default value. The permissible range is 1 to 65 days.

Chapter 19: Summation Index

The Summation Index, developed by the McClellans, represents the cumulative sum of the Advance/Decline Oscillator values over time.

This indicator is derived from the Advance/Decline Oscillator rather than calculated independently, making it a secondary indicator of market breadth.

Summation Index values are computed as the sum of all dates beginning at least 200 periods (days or weeks) prior to the current market date. Different data services may show varying values because they begin their summations at different historical starting points—some dating back decades. However, while absolute values may differ, the indicator's pattern and signals remain consistent across platforms.

DJIA from late mid-September to early October diverging up from Summation Index prior to a correction

Generally Accepted Input Values

The Summation Index uses no adjustable parameters.

Chapter 20: Traders Index

Also known as the Arms Index (ARMS), the Traders Index calculates by dividing the ratio of advancing to declining issues by the ratio of up volume to down volume.

A value of 1.00 indicates equal volume distribution between advancing and declining stocks. Values above 1.00 show declining stocks have higher per-issue volume than advancing stocks. Values below 1.00 indicate advancing stocks have higher per-issue volume.

TRIN functions primarily as an overbought/oversold indicator. Readings near 1.8% or higher suggest oversold conditions. Readings near 70% or lower indicate overbought conditions.
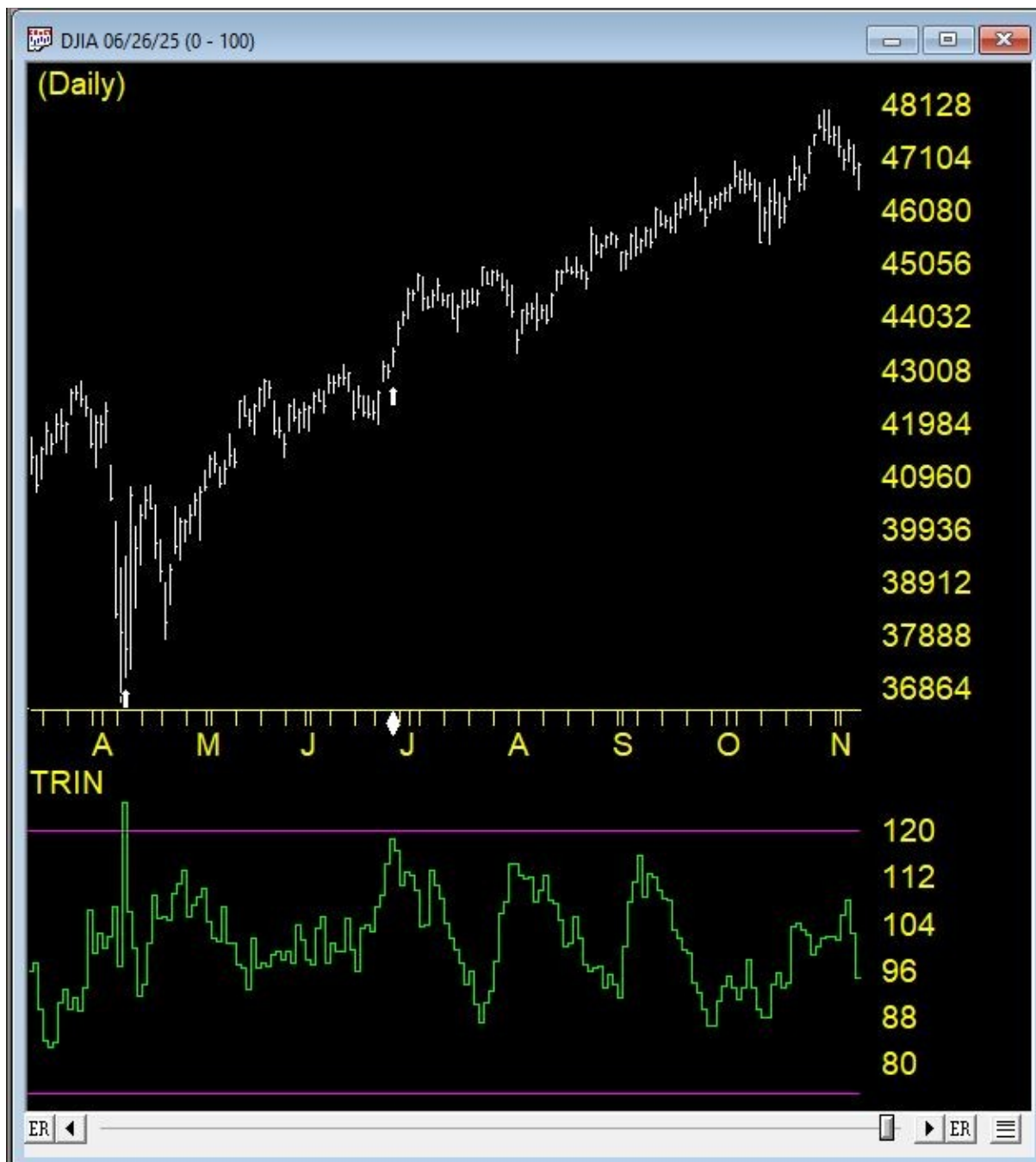
DJIA with 2 oversold signals early April 2025 and late June 2025

Monitor the duration that TRIN remains at extreme values. The indicator often leads the market, sometimes generating signals two to three weeks before actual market turns. During strong trends, TRIN may remain at or near one level for extended periods, reducing its usefulness in those conditions.

Generally Accepted Input Values

The time period for the moving average is adjustable. The default value is 10 days with a permissible range of 1 to 150 days. The 10-day setting is considered standard by most technical analysts.

Chapter 21: Trading Channel Index

The Trading Channel Index (TCI) identifies changes in price direction and is particularly useful for short-term trade confirmation and options trading.

A fundamental rule: never take positions against the TCI's direction. As a highly responsive short-term indicator, TCI changes direction frequently. When planning a position, using TCI's direction to time your entry can significantly improve short-term execution.

TCI adapts Donald R. Lambert's Commodity Channel Index for equity markets. The TCI's slower response makes it more practical for stock trading compared to the faster CCI, which was designed for commodity markets.
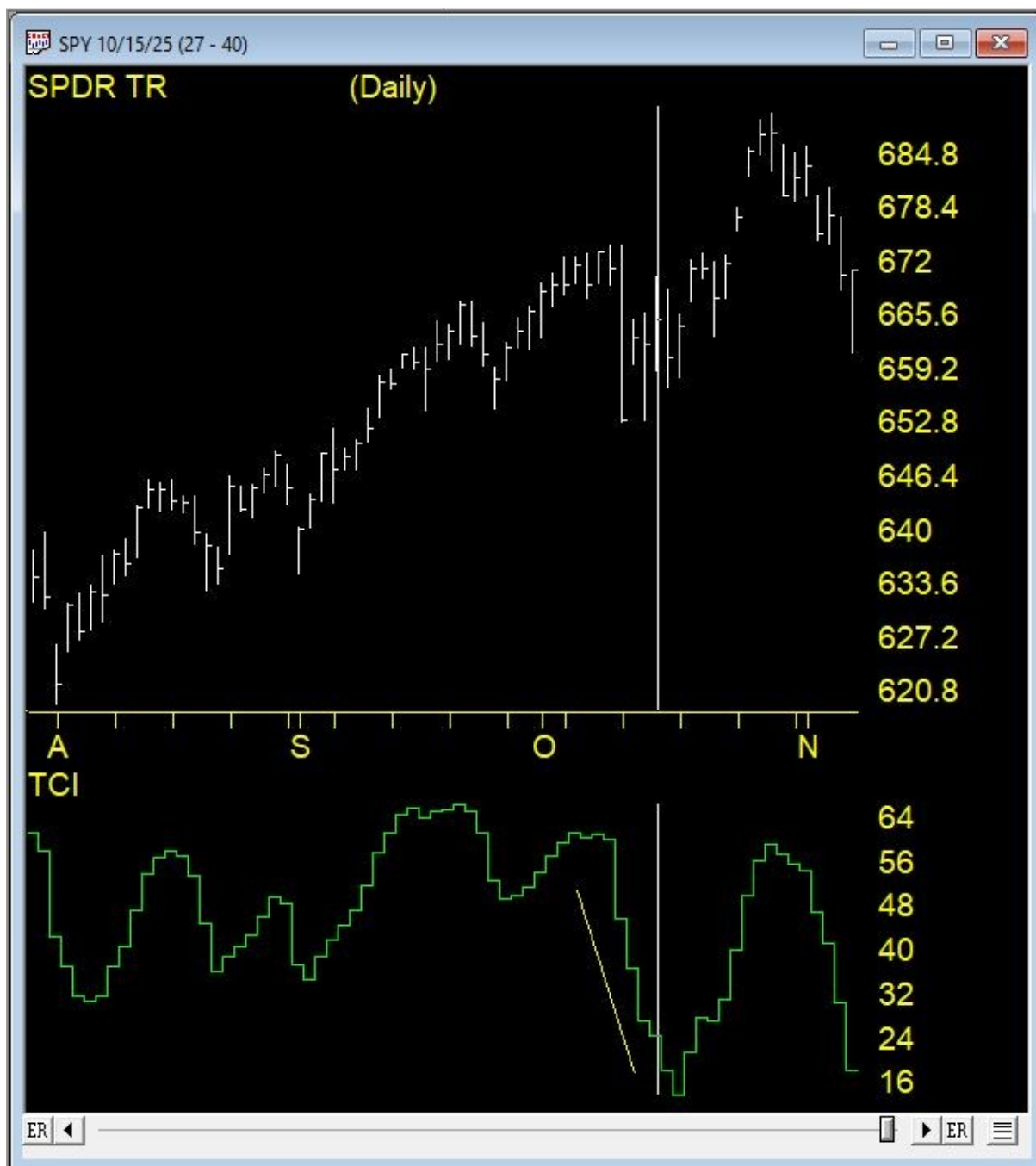
SPY with TCI in a down trend while prices are consolidating

TCI uses two exponentially smoothed averages: one for daily prices and another for price variability. The difference between daily price and average price is expressed in units of variability, similar to standard deviations in Bollinger Bands. TCI then calculates a third average of these variability units around the moving price average.

Generally Accepted Input Values

The time period for moving averages is adjustable. Standard values are: Short Term: 10 (range: 1-51), Long Term: 51 (range: 1-90).

Chapter 22: Up/Down Volume Oscillator

The Up/Down Volume Oscillator measures volume momentum by calculating the percentage difference between short-term and long-term moving averages of net volume (up volume minus down volume). It reveals the relative strength or weakness of market volume.

When the oscillator exceeds zero or transitions from negative to positive, it signals that net volume is positive and short-term volume strength surpasses long-term volume. This indicates increasing momentum supporting a market rally. When the oscillator drops below zero, it shows increasing downside volume, supporting market declines.

For market timing systems, the primary focus is whether the indicator remains in positive or negative territory.

DJIA bottomed in early April 2025 followed by increasing TCI. A buy signal is generated when TCI crosses the zero line on 4-21-25

Market timing charts demonstrate the indicator's effectiveness. When major indices test previous lows, if the Up/Down Volume Oscillator is negative but rising, it signals increasing up volume. When the oscillator turns positive, it often marks the start of a rally. During rallies, when up volume outweighs down volume, the oscillator remains positive for extended periods.

Generally Accepted Input Values

The smoothing constants for the two volume averages are expressed as days represented by each average and may be adjusted. Standard values are: Short Term: 32 (range: 1-350), Long Term: 32 (range: 2-400).

Chapter 23: Velocity

Velocity is a momentum indicator measuring the rate of price change using least squares methodology. It calculates as the slope of the line that best approximates the data over a specified time period.

Velocity operates similarly to the Price Phase indicator, used to identify short-term momentum shifts. The indicator oscillates around the zero line as momentum alternates between negative and positive. When the indicator rises above zero, momentum is positive and increasing. When below zero and falling, momentum is negative and weakening.

MYR in October and November 2025 with Velocity above zero and ascending showing strong trend periods

Chart analysis clearly reveals momentum shifts. Strong upward momentum periods become evident, as do reversals and sustained downside momentum. These patterns help traders identify optimal entry and exit points.

Generally Accepted Input Values

The time period for slope calculation is adjustable. The default value is 21 days with a permissible range of 1 to 100 days.

Chapter 24: Volatility Indicator

The Volatility indicator measures price fluctuation over a specified period, expressed as an annualized percentage change. This provides a standardized basis for comparing volatility across different securities. The methodology resembles the volatility calculation used in the Black-Scholes options pricing model. Higher values indicate greater volatility in the ticker or market.

Volatility readings help predict significant price movements. Volatility increases, especially following periods of low volatility, typically precede large price moves. The movement's direction usually opposes the current trend. Sustained high volatility often signals consolidation periods.

Volatility during consolidation Mid-September to early October 2025 followed by Volatility surge ahead of the move up

Historical examples show how volatility patterns predict price action. When a sector or ticker experiences very low volatility followed by a volatility spike, sideways movement typically ends, often triggering significant directional moves.

Generally Accepted Input Values

The moving average period for volatility is adjustable. The default value is 21 periods with a permissible range of 2 to 100 periods.

Chapter 25: Volume

Volume represents the fundamental force driving market movements. It indicates where supply meets demand at specific price levels. Changes in volume—increases or decreases over time—often precede price movements. Volume analysis forms the foundation for many trading rules and technical analysis methodologies.

On volume charts, daily volume appears as vertical bars. A line running through the bars represents an exponentially smoothed average of volume, providing context for current volume relative to recent history.

Volume is typically displayed in hundreds or thousands of shares, depending on the ticker's average activity. The critical factor is the volume's historical pattern and relative changes over time.

PLAB late August to early October 2025, 3 volume spike tops and 2 volume spike bottoms signal trader opportunities

Generally Accepted Input Values

The smoothing constant for the exponentially smoothed moving average is expressed as the number of days represented by the average and may be adjusted. The default value is 21 days with a permissible range of 1 to 200 days.

Chapter 26: Volume Accumulation Percentage

Volume Accumulation Percentage (VA Pct) is a variation of the Accumulation/Distribution indicator. It measures the current position of up volume relative to total volume.

The calculation subtracts down volume (volume on declining days) from up volume, then divides by total volume. A value of +10 means up volume exceeds down volume by 10%.

VA Pct ranges from -100% (close at the period's low) to +100% (close at the period's high). Significantly positive values indicate accumulation, as +100% means the closing price reached the period's high. Negative values suggest distribution, with -100% indicating the close at the period's low.

PRAA showing prices holding at recent highs through mid-September 2025 but with VA PCT sharply trending down, before prices dropped

Divergences provide powerful signals. When prices decline but Volume Accumulation trends higher, it suggests that despite declining prices, informed buyers are accumulating positions. A definitive buy signal occurs when the indicator turns positive, confirming the shift in momentum.

Generally Accepted Input Values

The time period for the average is adjustable. The default value is 21 days with a permissible range of 1 to 60 days.

Chapter 27: Volume Oscillator

The Volume Oscillator calculates the percentage difference between two exponentially smoothed volume averages. It shows the relationship between short-term and long-term volume patterns. Since volume changes often precede price movements, this indicator helps identify shifts in volume trends before price confirmation.

The centerline at zero provides the reference point. Positive values indicate short-term volume exceeds long-term volume. Negative values show short-term volume below long-term volume.

Focus on nonconformations with price activity. When a ticker approaches new highs but the Volume Oscillator turns negative, it suggests insufficient volume to support higher prices. These nonconformations often precede sharp price declines.

GM showing prices at recent highs late September 2025 but with Vol Osc trending down, before prices dropped

Generally Accepted Input Values

The smoothing constants for the two volume averages are expressed as days represented by each average and may be adjusted. Standard values are: Short Term: 25 (range: 2-350), Long Term: 10 (range: 1-400).

Chapter 28: Volume/Price Trend

The Volume/Price Trend indicator, like the Trading Channel Index, serves as a short-term confirmation tool. Its unique value lies in combining both price and volume into a single metric.

The calculation uses an exponentially smoothed average of the ratio between percentage price change and the percentage of volume above or below average.

This indicator demonstrates high sensitivity to price changes. Periods of average volume typically precede high-volume periods once price action accelerates. Volume/Price Trend attempts to anticipate price action by measuring price changes during normal volume conditions.

The indicator's quick, short-term confirmation makes it particularly valuable for options trading where timing precision is critical.

Monitor for divergences and nonconformations with price action. Divergences occur when price trends and indicator trends move in opposite directions. Nonconformations happen when price achieves new extremes without corresponding indicator confirmation.

Strong Volume/Price Trend readings often confirm trading signals, validating momentum and suggesting sustainable moves.
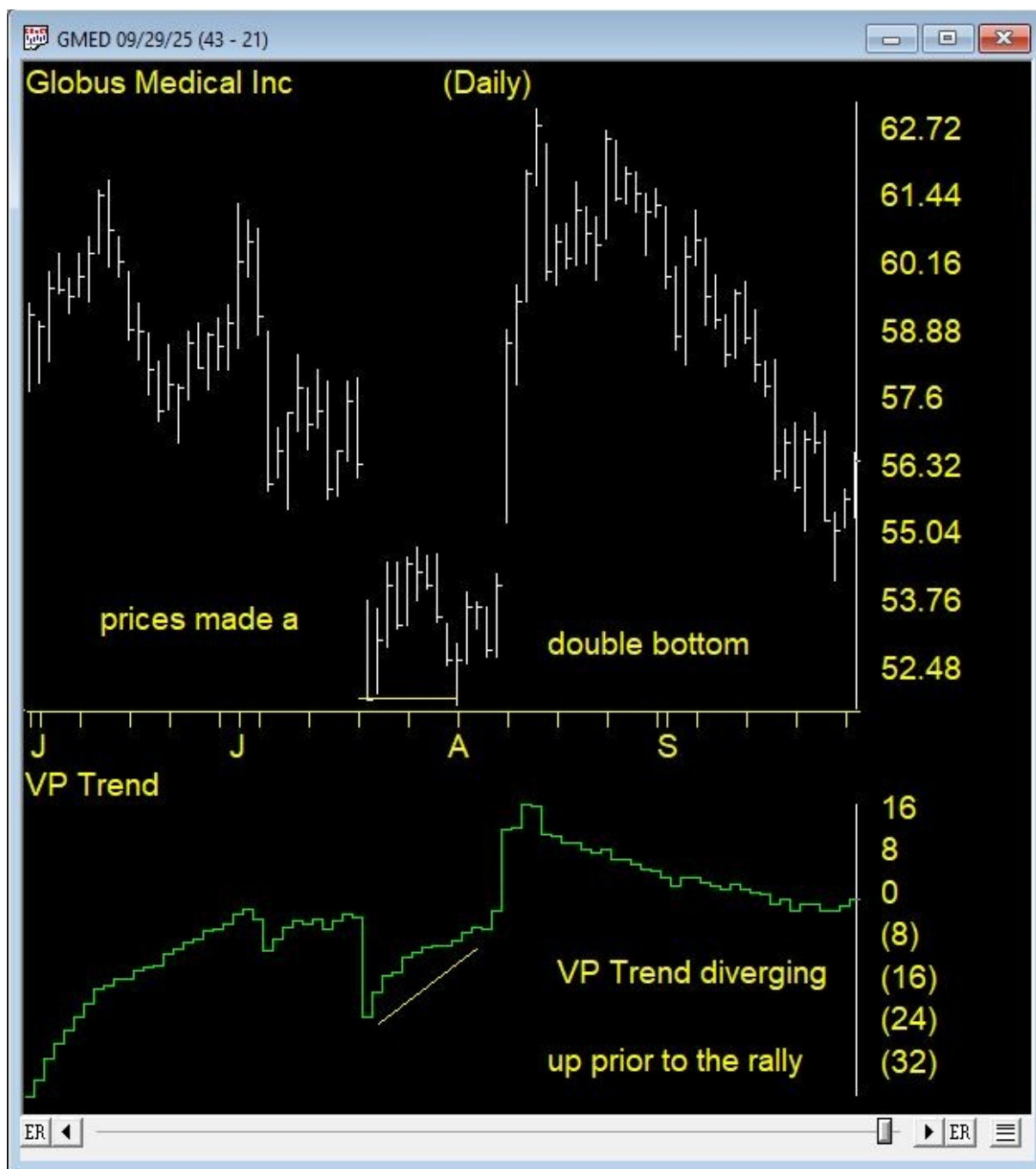
GMED showing a double bottom late August 2025 but with VP Trend diverging up prior to the rally

Generally Accepted Input Values

The time period for the volume average is adjustable. The default value is 10 days with a permissible range of 1 to 200 days. The 10-day setting is standard among technical analysts and recommended by Richard Arms.

Chapter 29: ZigZag

ZigZag is not a predictive indicator but rather a price filtering tool that identifies significant price swings by removing minor fluctuations from the chart. It connects significant highs and lows while ignoring price movements smaller than a specified threshold.

The ZigZag indicator draws straight lines between swing highs and swing lows, eliminating the noise of minor price changes. This clarifies the overall price structure and makes major support and resistance levels more visible. The indicator helps traders see the forest instead of the trees—the major price waves rather than every minor fluctuation.

Technical analysts use ZigZag for pattern recognition. By filtering minor movements, chart patterns like head and shoulders, triangles, and double tops/bottoms become more apparent. The indicator also assists in Elliott Wave analysis by clearly delineating wave structures.

Important limitation: ZigZag repaints. The last line segment remains tentative until price moves sufficiently to confirm the swing point. Because of this repainting characteristic, ZigZag should never be used alone for trading signals. Instead, it serves as a visual analysis tool for identifying significant price levels and patterns.
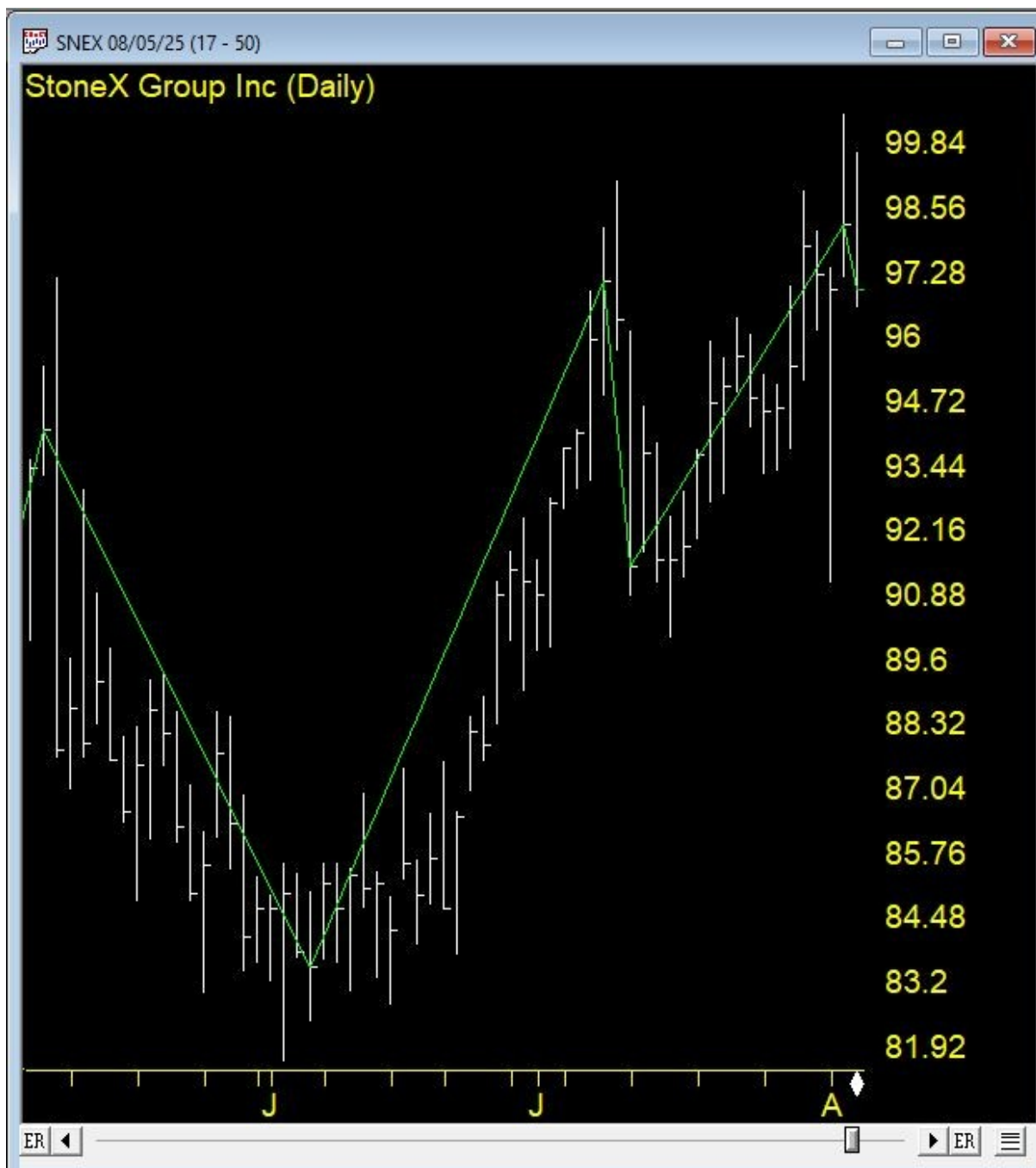
SNEX with Zig Zag highlighting the major turn points April to August 2025

Chart analysis with ZigZag reveals major price swings clearly. The indicator connects significant peaks and troughs, allowing traders to visualize major market movements and identify key support/resistance levels. Users can adjust the sensitivity to show more or fewer swing points based on their analysis timeframe.

Generally Accepted Input Values

Percentage Threshold: The minimum price change required to draw a new line segment. Default is 5% (range: 1%-15%). Lower values show more detail but include more noise. Higher values filter aggressively but may miss significant moves.