ALGOTRADE
PRO

EXPERT GUIDE TO
TESTING & CUSTOMIZING
YOUR TRADING ALGORITHMS

ALGOTRADE PRO TEAM®

Unlock the full potential of your trading strategies
with advanced algorithmic testing and automation

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1. Introduction

1.1 Purpose of the Manual

The purpose of this manual is to provide a comprehensive guide for setting up, customizing, and utilizing our **Premium Indicators Testing Bot** and other trading algorithms offered by AlgoTrade Pro. While the manual specifically references the **Premium Indicators Testing Bot**, it applies to any algorithm in our suite, as the underlying setup and customization process is the same for all of them. This makes the manual a universal resource for any client subscribing to our algorithms, regardless of which strategy they choose.

The goal is to streamline strategy testing and automation on TradingView, enabling both beginner and experienced traders to analyze past market data, optimize their strategies, and leverage automation in their trading process. This guide includes both a **Quick Version** for immediate implementation and a **Long Version** for in-depth understanding.

1.2 Overview of the Algorithm

The **Premium Indicators Testing Bot** can be used not only for backtesting strategies but also for live trading. The bot supports a wide array of indicators and features, enabling traders to automate parts of their trading strategy or fully automate the entire process, depending on their preferences.

Additionally, the bot can be configured to provide **alert notifications** whenever new signals appear, making it a **partially automated solution**. This allows traders to receive real-time notifications (e.g., via mobile message or push notifications), prompting them to act on trades. Although this requires the trader to manually execute the trade in their broker's platform, it still significantly reduces the need for constant monitoring.

For traders seeking complete automation, the bot can also be fully integrated with their trading strategy, including real-time execution, depending on the setup.

1.3 Why Customizing the Algorithm Matters

Customization is a key advantage of using the **Premium Indicators Testing Bot**. One of the main benefits is the **speed** and **precision** it offers. Manually conducting the same tests would take months or even years, but with the bot, you can analyze thousands of scenarios in seconds. This allows for more efficient strategy testing and optimization.

Other benefits of using the bot include:

- **Rapid testing** with precise and reliable results.

- **Backtesting** over large datasets, which would be impossible to do manually.

- **Optimization of trading strategies** through faster iteration and refined parameters.

- **Risk management** with customizable stop loss, take profit, and trailing stop features.

By utilizing the bot, traders can quickly test and refine their strategies without the need for manual backtesting, allowing them to focus on more strategic decision-making and improve overall trading performance.

1.4 Getting Started with TradingView

After receiving confirmation of access to the **Premium Indicators Testing Bot** or any other algorithm, the first step is to log in to your TradingView account using the username you provided during subscription.

Once logged in, navigate to the **Indicators** tab in the TradingView platform:

1. Go to the **Indicators** section.

2. Select **Invite-only Scripts**.

3. You will find the algorithm listed there. Click on it once to add it to your chart.

From there, you can begin customizing the algorithm and integrating it into your trading strategy. This process is simple, and we provide further instructions on how to modify the settings to suit your needs.

2. Quick Version

This quick guide provides an overview of the main steps and settings for using the algorithm and monitoring its performance on TradingView. Follow the steps and customize the settings as needed. For a more detailed explanation, refer to the Long version.

2.1. Adding the Algorithm to Your Chart

Once you've received access to the algorithm, follow these steps to add it to your TradingView chart:

1. **Log in to your TradingView account**.

2. Click on the **Indicators** button at the top of the screen.
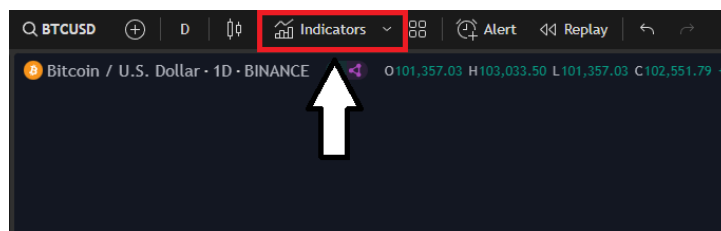
Figure 1 - TradingView's Indicators Tab

3. Select the **Invite-only Scripts** tab where all exclusive scripts are available.
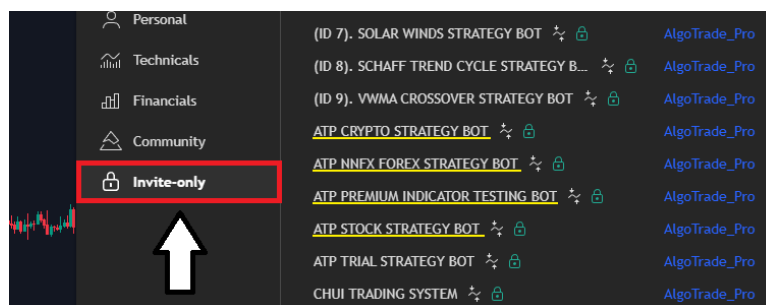
Figure 2 - Invite-Only Scripts Tab

4. Find the name of the algorithm you were granted access to and click on it.

5. The algorithm will be automatically added to your chart after a few seconds.

Tip: If the algorithm doesn't appear immediately, wait for a few seconds or refresh the TradingView page.

2.2. Customizing the Algorithm: Settings Menu

After adding the algorithm to your chart, you can customize it to suit your specific needs. Follow the steps below:

1. **Hover your mouse over the algorithm** on the chart.

Figure 3 - Script's Settings Button

2. Click on the **Settings (gear)** icon to open the customization menu.

Within the settings menu, you will find **four main tabs**:

- **Inputs**

- **Properties**

- **Style**

- **Visibility**
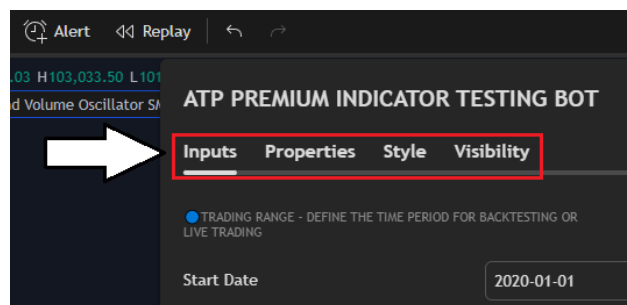
Figure 4 - Algorithms' Main Tabs

Here, we will detail the options available in the **Inputs** tab, which is the most extensive and important for customizing the algorithm.

Here's a brief description of the other three tabs in TradingView:

1. **Properties**: This tab allows users to adjust the core parameters of the indicator or strategy, such as fundamental settings that affect its behavior.

2. **Style**: In this tab, users can customize the visual appearance of the indicator or strategy, including colors, line styles, and other visual elements that make it easier to interpret on the chart.

3. **Visibility**: This tab controls when and where the indicator or strategy will be visible, such as on specific timeframes or chart types, helping users refine their trading setup.

2.3. Inputs Tab: Customization Options

The **Inputs** tab offers various options for configuring the algorithm according to your trading style and preferences. The sections are color-coded for easy navigation.

1. **Trading Range**:

Start Date and **End Date**: Define the period for backtesting.

- Example: If you want to test the algorithm from **2020 to 2022**, set the start date to **01/01/2020** and the end date to **31/12/2022**.
- For **live trading**, set the end date to a future date, like **31/12/2050**.

The algorithm will only take trades within the defined date range.

This feature can be used for **in-sample** and **out-of-sample** testing, allowing you to compare the strategy's effectiveness.
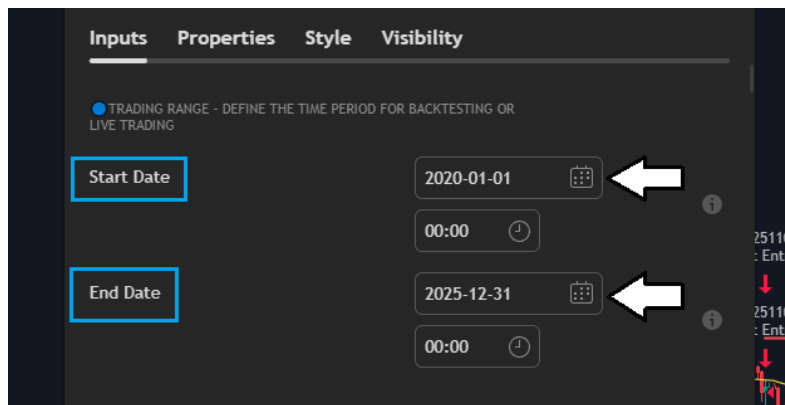
Figure 5 - Trading Range Section

2. **Trading Sessions**:

Enable the option **Activate Trading Sessions** to restrict trading to specific sessions of the day.
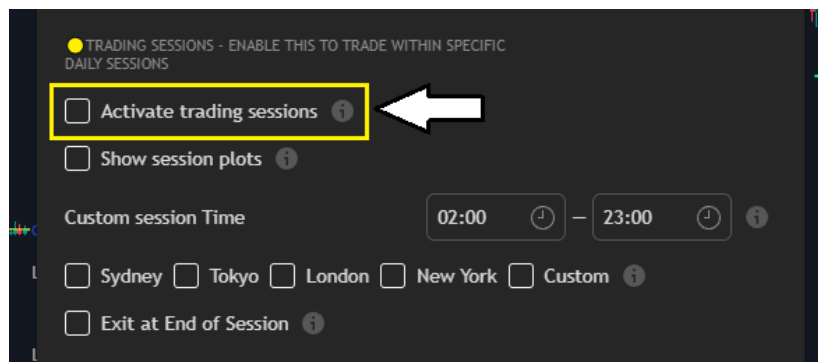
Figure 6 - Trading Sessions Section

Choose between **Sydney**, **Tokyo**, **London**, and **New York** sessions, or create your own custom session by setting **start and end times**.
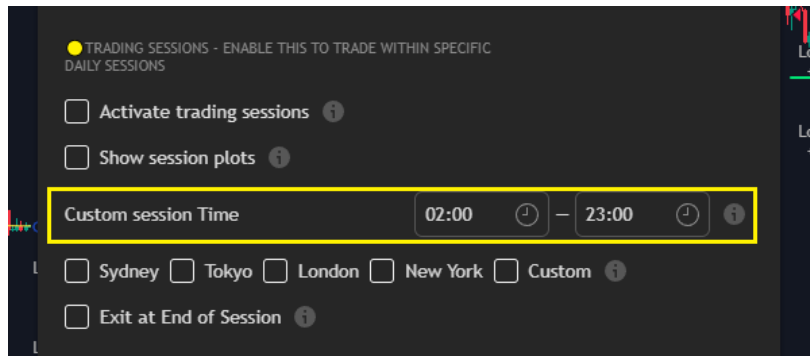
Figure 7 - Custom Session Time Option

Adjust for UTC on the "Custom session Time": Keep in mind that times are set in UTC. If you're in a different timezone, you will need to adjust for that.

Show Session Plots: Displays the sessions on the chart with different colors.

Exit at End of Session: Forces the algorithm to close all positions at the end of the session, even if Take Profit or Stop Loss has not been triggered.

3. **Day Filter**:

Select the **days of the week** you want to trade.

By default, all days are selected. To unselect a day, simply click the checkbox next to the day.
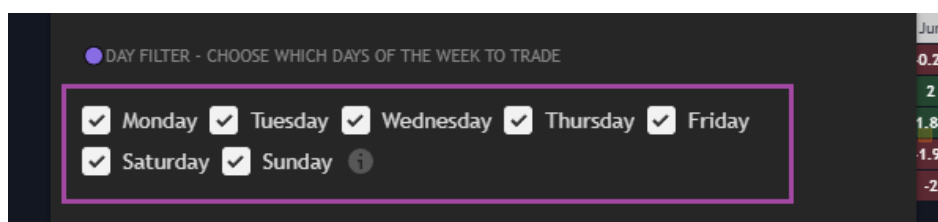
Figure 8 - Day Filter Section

4. **Risk Management**:

Fixed Risk per Trade or **Fixed Contracts**: Choose how you want to manage your risk.

- If you choose **fixed risk**, the algorithm will calculate the amount to risk per trade based on your risk percentage (e.g. 2% = 0.02; 0,5% = 0.005, etc.)
- If you opt for **fixed contracts** (TradingView lot size), risk will be determined by the number of contracts in each trade.

Compounding: If enabled, the algorithm will reinvest profits from previous trades, increasing the risk amount as the balance grows.
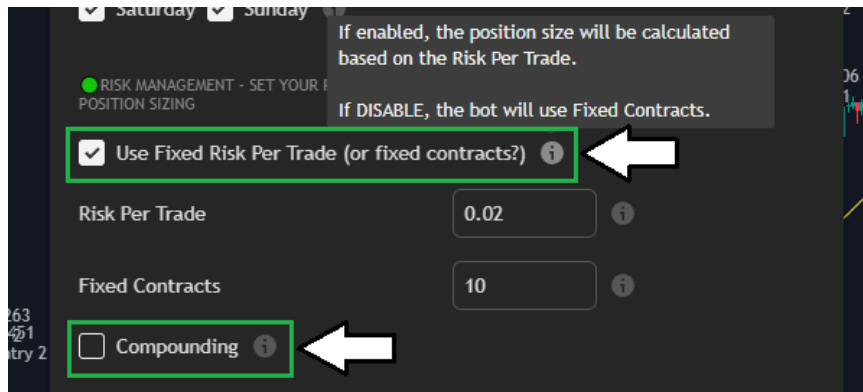
Figure 9 - Risk Management Section

5. **Position Sizing**:

Choose how to calculate your Stop Losses, Take Profits and/or Trailing Stop Losses. You have got two options:

- **Fixed Distance** (in pips)
- **ATR (Average True Range)**: Takes into account market volatility to calculate safe distances for Stop Loss and Take Profit.
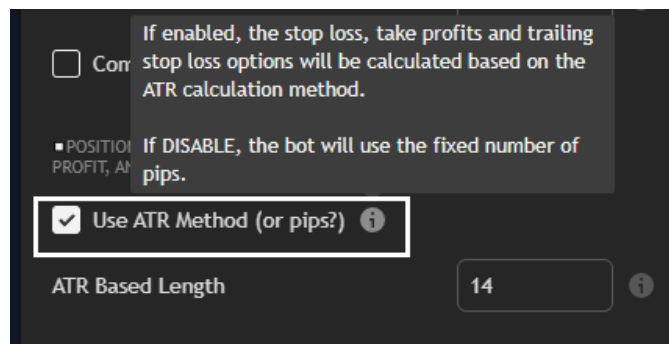
Figure 10 - Position Sizing Section

If you choose **ATR**, you can define its length and set a **"Multiplier"** to increase the distance of Stop Loss and Take Profit relative to the ATR value (e.g. multiply the ATR pip value by 2).
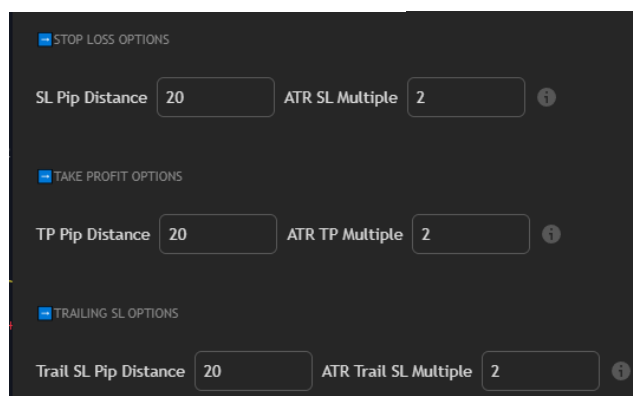
Figure 11 - Risk Management Options

6. **Take Profit Options**:

- **1 Take Profit (1 TP)**: The entire position will be closed at the Take Profit level selected by the user in the previous section, whether using a fixed pip value or an ATR multiple.

- **2 Take Profits (2 TPS)**: This option utilizes a more **advanced risk management** strategy. In this case, a portion of the position will be closed at the first Take Profit level defined by the user, while the remaining part of the position will stay open with a Trailing Stop Loss (also defined by the user in the *Position Sizing Section*).

  The purpose of the Trailing Stop Loss is to maximize profits by scaling as the price moves in favor of the trade, without a fixed Take Profit.

  To define the percentage of the position that will be closed at the first Take Profit, users can configure the **Partial Profits Percentage** option (e.g. 50% = 0.5)
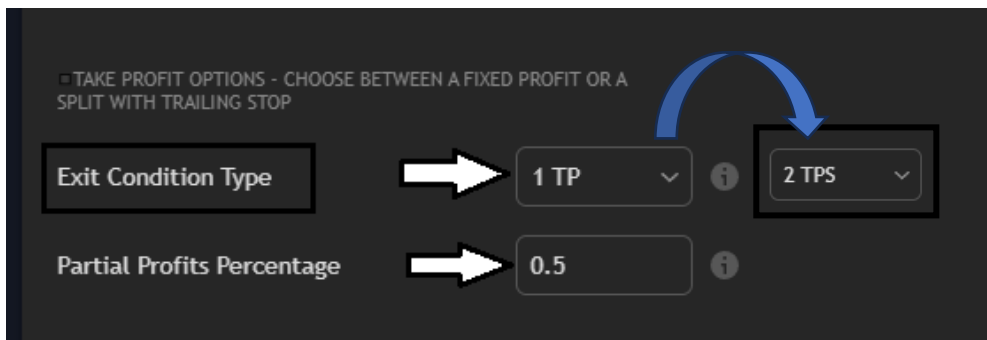
Figure 12 - Exit Condition Type Options

7. **Additional Rules**:

Candle Rule: Adds a waiting period (user-defined on the "Multiple") before confirming a trade, ensuring all conditions stay aligned. For example, if one condition (like volume) is unmet, the bot will wait for one more candle to see if it aligns. This rule is helpful for higher timeframes, filtering out false signals and improving entry accuracy.
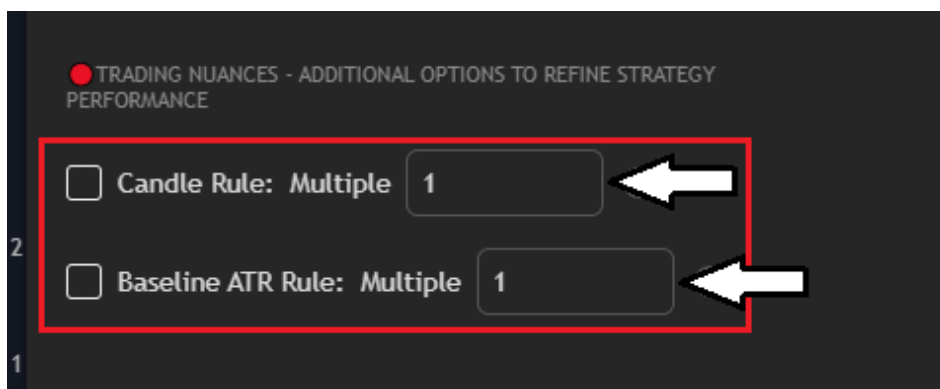
Figure 13 - Trading Nuances Section

Baseline ATR Rule: Ensures entries are only considered if the price is within a specific distance from the baseline, defined by a Multiple of the ATR. This limits entries to a range near the trend level, preventing trades when the price is too far away. The ATR Plus and ATR Minus bands visually represent the allowed entry range.
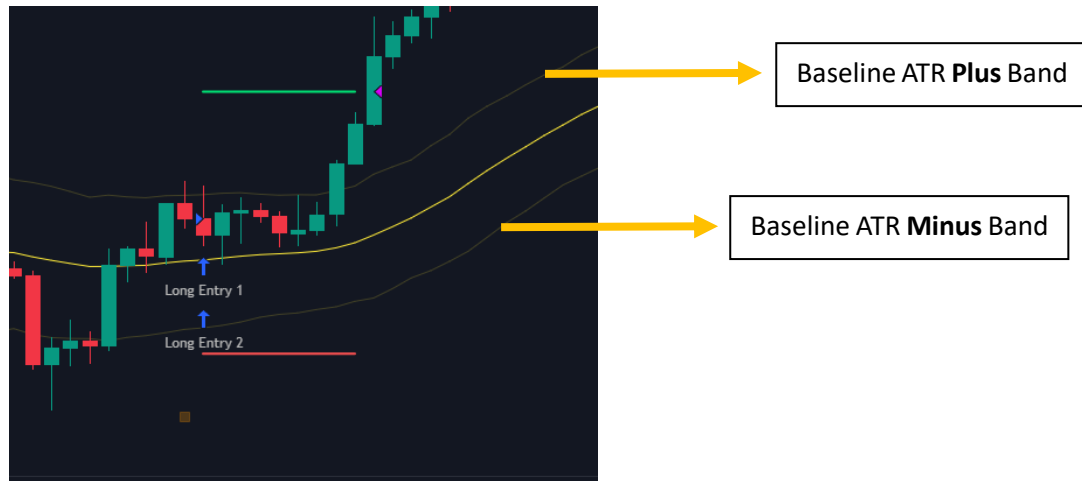
Figure 14 - Baseline ATR Bands

8. **Indicators**:

- **C1 (Main Indicator)**: The primary indicator that can be selected from the "Indicators" tab. Once selected, you can assign it specific functions like **trigger**, **confirmation**, or **exit** signal. We currently offer **over 50 options**, with new indicators being added regularly. This flexibility allows you to tailor the strategy to your trading style by choosing the most appropriate indicator for your setup.
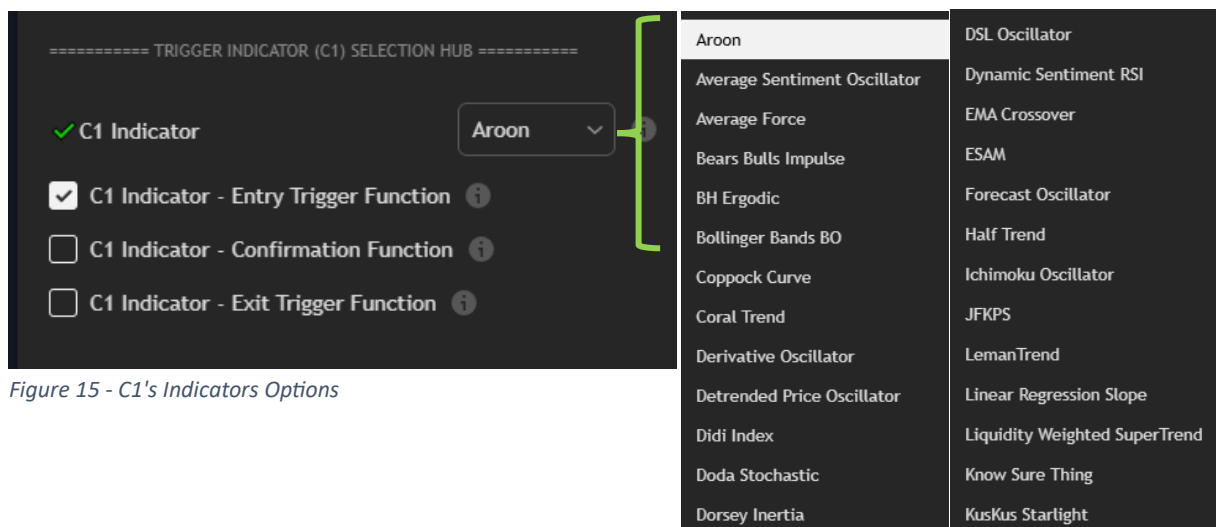
Figure 15 - C1's Indicators Options

(Example with some options)

- **C2 (Secondary Indicator)**: Also known as the "Filter," this indicator functions in the same way as the C1, allowing you to select from the same range of options. The key difference is that it acts solely as a **secondary confirmation** tool for trade entries, enhancing the accuracy of your signals.
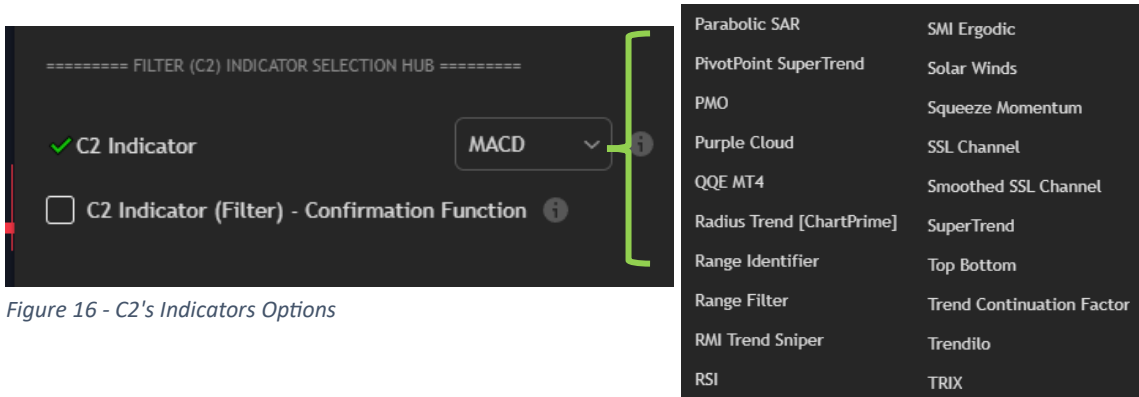
Figure 16 - C2's Indicators Options

(Example with some options)

- **Volume**: Similarly to the C2 Indicator Option, there are **over 10 volume indicators** available for selection. These can be used to **confirm entry signals**, providing additional context to the market's activity and ensuring more robust decisions when entering a trade.
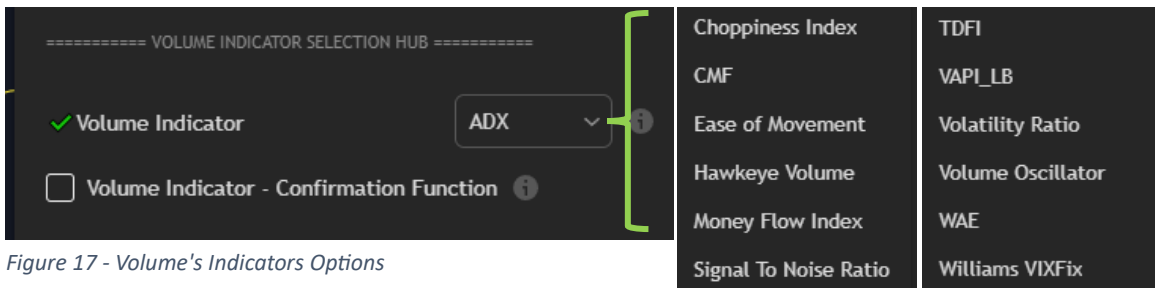
Figure 17 - Volume's Indicators Options

(Example with some options)

Exit Indicator: This indicator defines an additional tool the algorithm can use to exit a trade. Just like the C1 and C2, you can choose from the same set of indicators, but the exit indicator is typically the one that reacts faster to price movements, helping to close positions at the optimal time.
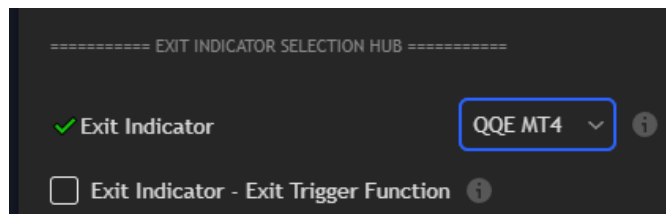
Figure 18 - Exit's Indicators Options

- **Baseline Indicator:** This includes **over 15 options** like moving averages, which function similarly to the C1 indicator. You can use it as a **trigger**, **confirmation**, or **exit signal**, just like the main indicator. Baseline indicators are useful for identifying trends or price movements in the market, and their signals can confirm other indicators. New baseline options are regularly added to the platform.
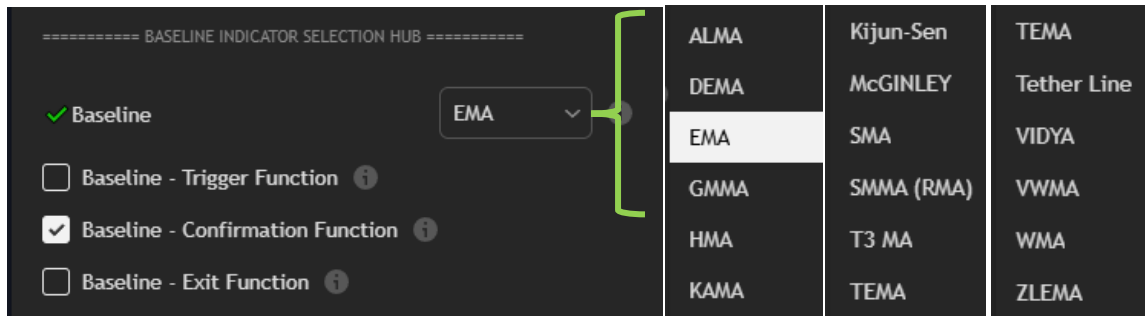
Figure 19 - Baseline's Indicators Options

Each of these indicator options comes with an additional section to adjust their inputs and settings, providing you with **full control over the customization** of your trading strategy. Below the section where you select your indicators, you will find the inputs for each available option in a list, where **you can modify the settings as needed**. Here are a few examples below:
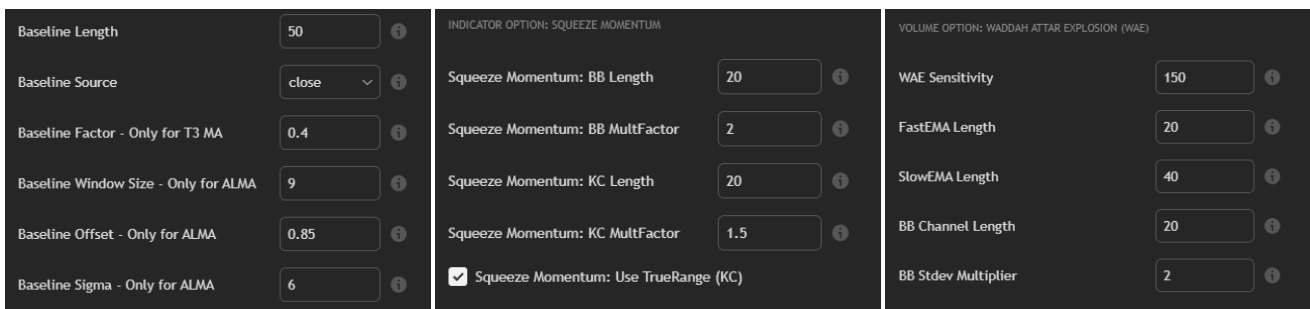
Figure 20 - Indicator's Inputs (Examples)

9. **Trade Type**:

Set whether the algorithm should trade **buy only**, **sell only**, or **both**.
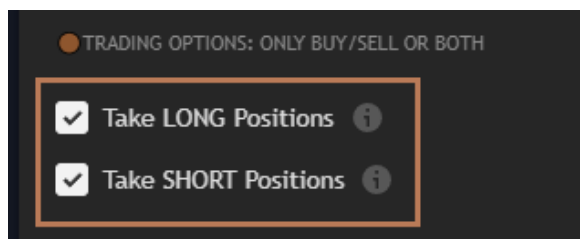
Figure 21 - Trading Options Section

10. **PineConnector**:

To automate the strategy by using the **PineConnector**, enable the "Use PineConnector Automation" option. Simply click this option if you wish to use this functionality.

Next to it, you'll find a tooltip with a detailed description that guides you step-by-step on how to automate your strategy using PineConnector. There are four fields you need to fill in, and the tooltip provides clear instructions for each of them.

Additionally, for symbol changes, there is a section for the symbol override, with tooltips explaining how it works.
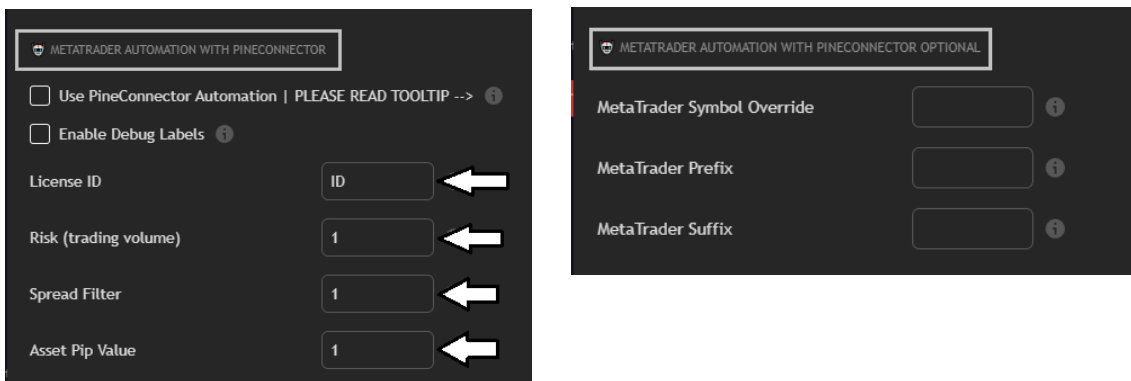
Figure 22 - PineConnector Section

11. **Monthly Results Table**:

Enable this option to display the algorithm's monthly results, making it easier to track performance over time.
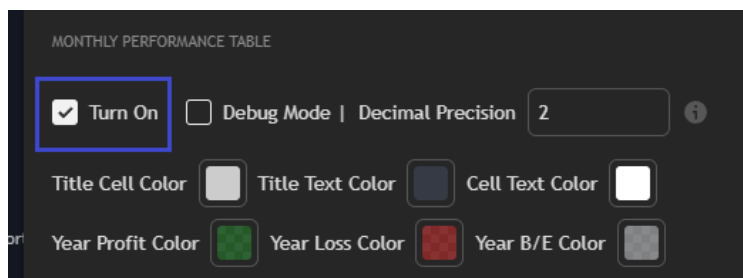
Figure 24 - Monthly Performance Table Section

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD	REALIZED P&L
2020	5.25	2.33	7.93	8.09	-2.48	-4.36	0.93	-1.55	-9.99	-5.68	-0.84	6.91	+6.54%	-27.04%	CAGR: +6.36%
2021	1.65	7.62	3.08	3.58	4.74	1.12	7.6	-1.25	-3.93	1.41	1.34	-3.03	+23.93%	-6.51%	MaxDD: -23.82%
2022	2.35	0.76	-1.72	8.43	0.5	-0.12	-0.39	-1.46	-2.36	1.13	0.37	-0.16	+7.33%	-8.7%	DD Bars: 4320
2023	1.56	2.43	-3.23	4.87	-1.9	-0.37	-3.33	-0.3	0.77	0.5	-1.2	1.86	+1.65%	-9.94%	MAR: 0.27
2024	4.84	1.5	0.48	-0.33	2.86	0.38	-1.99	-0.72	-1.07	1.77	-1.29	-6.2	+0.23%	-10.23%	Return: +44.78%
2025	0												0%	0%	

Figure 23 - Monthly Performance Table Example

2.4. Monitoring Strategy Performance

Once the algorithm is applied, you can monitor its performance using the **Strategy Tester**. It offers four main sections:

1. **Overview**: Displays the equity curve, net profit, win rate, profit factor, max drawdown, average profit/loss per trade, and average trade duration.
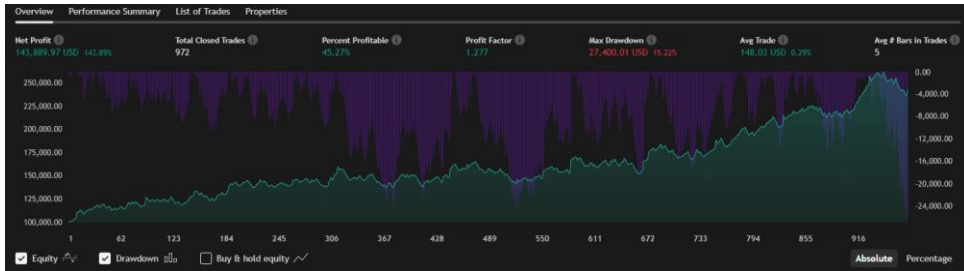
Figure 25 - Overview Tab

2. **Performance Summary**: Provides detailed statistics specific to the selected asset, such as annualized return, Sharpe ratio, and max consecutive wins/losses.

Figure 26 - Performance Summary Tab

3. **List of Trades**: Shows all trades executed. The **Export Data** button allows you to download the data as a CSV file for further analysis in Excel, which is useful if you want to track results across multiple assets. For more information on using the exported data, check our [Trading Journal Guide](#).

Figure 27 - List of Trades Tab

4. **Properties**: Shows the settings used for the current results, including risk management and position sizing.

Overview   Performance Summary   List of Trades   Properties

> Date range   Trading range: 2020-01-14 02:00 — 2025-01-29 10:00, Backtesting range: 2020-01-01 00:00 — 2025-01-29 10:00

> Symbol info   Symbol: BINANCE:ADAUSD, Timeframe: 2 hours, Chart type: Candles, Precision: Default

> Strategy inputs   Start Date: 2020-01-01 00:00, End Date: 2025-12-31 00:00, Activate trading sessions: Off, Custom session Time: 02:00 — 23:00, Show session plots: Off, Exit at End of Session: Off, Sy...

> Strategy properties   Initial capital: 100000 USD, Order size: 1 Contracts, Pyramiding: 2 orders, Commission: 0%, Slippage: 0 ticks

Figure 28 - Properties Tab

This was a **quick overview** of the essential steps to get started with the algorithm. For a more detailed explanation, including in-depth insights into the algorithm's functionality and additional educational content, please proceed to the next page: **Long version**. Here, we provide comprehensive information to help you make the most of this tool and optimize your trading strategy effectively.

3. Long Version

This detailed guide provides an in-depth explanation of each step and setting required to fully customize and optimize the algorithm on TradingView. It covers everything from adding the algorithm to your chart, adjusting key settings like trading sessions, risk management, position sizing, and trade rules, to understanding important indicators and their impact on the strategy. With comprehensive examples and technical insights, this version is designed for traders looking to fine-tune their approach and enhance their algorithmic trading experience.

3.1. Adding the Algorithm to Your Chart

To begin using the algorithm, you first need to add it to your TradingView chart. The process is simple, but important to understand to ensure smooth integration.

1. **Log into your TradingView Account**: Ensure you are logged into your TradingView account where your subscription is active.

2. **Click on "Indicators" at the Top of the Screen**: On the TradingView interface, you'll find the "Indicators" button at the top toolbar of your chart. Click it to open the indicators search menu. (Check Figure 1)

3. **Navigate to the "Invite-Only Scripts" Tab**: In the search bar, click the "Invite-Only Scripts" tab, where all the exclusive scripts you have access to are listed. (Check Figure 2)

4. **Select the Algorithm**: Scroll through your list of "Invite-only" scripts and locate the algorithm you wish to use. Once you find it, simply click on it, and the script will be automatically added to your chart.

Tip: If you don't see the script immediately after clicking, try refreshing your page or waiting for a few moments.

3.2. Customizing the Algorithm: The Settings Menu

After successfully adding the algorithm to your TradingView chart, it's time to personalize it to align with your unique trading preferences. This customization process allows you to fine-tune critical aspects such as risk management, trading sessions, stop loss settings, and more, ensuring that the algorithm fits seamlessly into your trading strategy.

To access the customization options, follow these steps:

1. **Hover Over the Algorithm Label on Your Chart:** Place your cursor over the algorithm's label on the chart. This is where you'll initiate the settings menu for further adjustments.

2. **Open the Configuration Menu:** Click the "Settings" icon (represented by a gear) that appears when hovering over the algorithm label. This will bring up the settings menu, allowing you to modify the algorithm's parameters. (Check Figure 3)

Inside the settings menu, you'll see four primary tabs, each designed to handle a specific aspect of the algorithm: (Check Figure 4)

- **Inputs:** This is the most comprehensive section, allowing you to adjust various inputs like trading range, risk management settings, position sizing, and more. Here, you can define how the algorithm will operate, including custom configurations for your trading style.

- **Properties:** This tab includes core parameters that affect the behavior of the algorithm. It's essential for adjusting foundational settings that influence how the algorithm behaves in different market conditions.

- **Style:** The Style tab provides options for customizing the visual appearance of the algorithm. You can adjust the color scheme, line styles, and other aesthetic elements to make the algorithm easier to interpret on your chart. This can help you visualize trade entries, exits, and signals clearly.

- **Visibility:** This tab controls the visibility of the algorithm on different timeframes and chart types. By adjusting these settings, you can ensure that the algorithm only displays on the timeframes where it's most relevant to your strategy.

In the chapters ahead, we will break down each of these tabs in detail, explaining the purpose of each setting and how to optimize them for your trading goals.

Whether you're focusing on risk management, fine-tuning your position sizes, or customizing your chart's visual appearance, we'll guide you through every step of the customization process to ensure you can make the most out of this powerful tool.

3.3. Inputs Tab: Key Customization Options

The **Inputs** tab contains several sections, each designed to allow for different levels of customization. Below is a detailed breakdown of the most important sections and their functionality:

3.3.1. Trading Range: Defining Your Backtest Period

The **Trading Range** section allows you to set the specific time period for backtesting your algorithm. Backtesting is a critical step in assessing a strategy's potential, as it simulates how the algorithm would have performed over historical data. Defining an appropriate trading range is essential, as it influences the quality and reliability of the strategy's performance evaluation.

Once you've selected the appropriate range of dates for your backtest, you can move on to dividing the data into **In-Sample** (IS) and **Out-of-Sample** (OOS) sets. This process will allow you to test the strategy's robustness and ensure that it's not overfitted to the training data.

Start Date and End Date: You can define the range of dates for which you want the algorithm to perform the backtest. [(Check Figure 5)](#)

- **Example**: If you wish to backtest your algorithm from 01/01/2020 to 31/12/2022, simply input these dates in the respective fields. The algorithm will then run simulations within this time frame to evaluate performance.

For live trading, simply set the end date to a far-off date (e.g., **31/12/2050**) to allow the algorithm to continuously run without an end date.

In-Sample and Out-of-Sample Testing:

The key to robust backtesting lies in the use of **In-Sample** and **Out-of-Sample Testing**. Once you have defined your trading range, the next logical step is to separate your historical data into these two distinct subsets:

- **In-Sample Testing** uses data from the period during which the model was trained. This dataset is used to adjust and optimize the algorithm's parameters, ensuring it performs well within the tested time frame.

- **Out-of-Sample Testing**, on the other hand, tests the algorithm using data it has never encountered before. The goal is to ensure that the strategy is robust enough to generalize to unseen data and provide a realistic evaluation of how it will perform in unknown market conditions.

To define these two types of tests, it's important to first understand the maximum amount of historical data available to you based on your TradingView plan and the asset/timeframe you are working with. Here's how to determine the available data:

1. Go to the TradingView chart and click on the **"Go To"** button *(Alt + G)*.
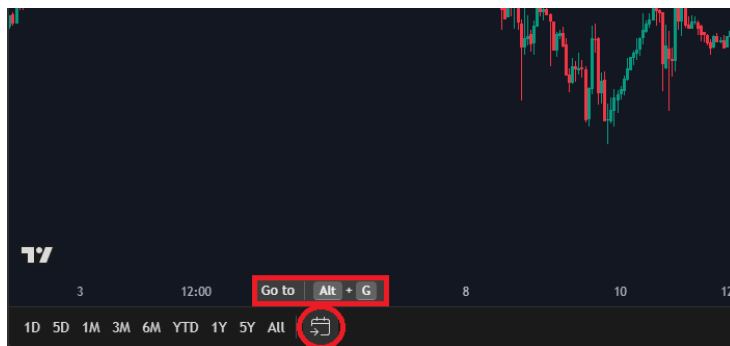
Figure 29 - "Go To" Button Location

2. Choose a very old date (the more distant, the better) and click **OK**.
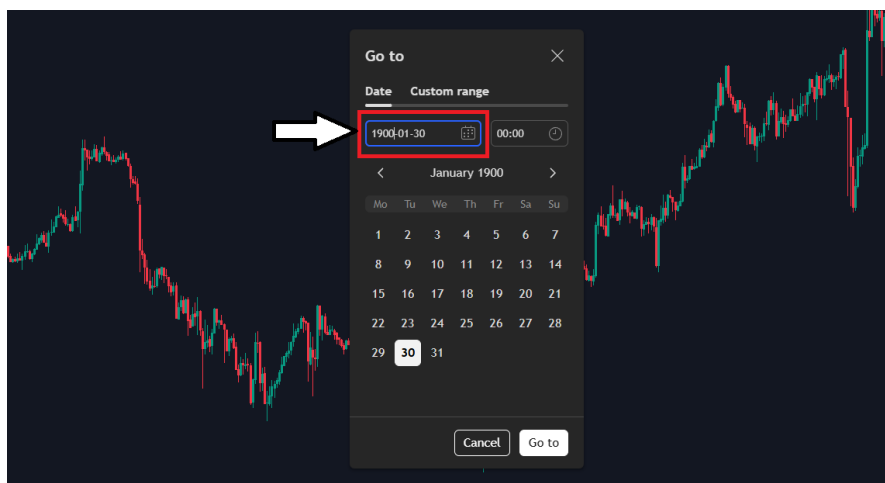
Figure 30 - Insert your Date here

3. TradingView will display the maximum amount of historical data available for the asset and timeframe you are using.

Figure 31 - Last Available Bar Example

Dividing the Data for IS and OOS:

After determining the maximum amount of data available, you can split the data into two parts:

- **In-Sample (IS):** The first half of the data is used to create and optimize the strategy.

- **Out-of-Sample (OOS):** The second half is used to test the robustness of the strategy, assessing how well it performs on data that was not used during the creation and optimization process.

This division is crucial to evaluate how the strategy holds up and adapts to new market conditions. The **robustness** of the strategy is determined by how well it performs in OOS testing compared to the IS testing. Generally, the strategy is considered **robust** if the results from the OOS are within a 20% difference from the IS results. This indicates that the strategy is stable and likely to perform similarly in future, unseen market conditions.

If you wish to learn more about **In-Sample** and **Out-of-Sample Testing**, I recommend exploring this Learning Link that outlines best practices and how to apply these concepts effectively in your strategies.

Additionally, if you want to see the **creation of a strategy from scratch**, implementing the IS and OOS concepts, I have prepared an Exclusive Playlist on my YouTube channel, where I guide you step-by-step through the process of developing and testing strategies on TradingView.

3.3.2. Trading Sessions: Defining Your Active Trading Hours

In the **Trading Sessions** section, you have the flexibility to define the active hours during which your algorithm will execute trades, depending on the market hours you choose. This is especially crucial when trading global markets such as Forex or Crypto, which operate around the clock but in different time zones. Understanding the trading sessions and configuring them correctly ensures your algorithm aligns with the most active and liquid periods of the market, enhancing its performance and reliability.

Activate Trading Sessions: You can enable or disable specific trading sessions for different financial centers around the world (Check Figure 6). The four primary sessions are:

- **Sydney**: 09:00 PM to 6:00 AM UTC: This session marks the opening of the global market, often characterized by lower volatility compared to later sessions. It's ideal for those who prefer to trade during the quieter hours or those looking to trade specific currencies like AUD.

- **Tokyo**: 12:00 AM to 9:00 AM UTC: The Tokyo session is one of the most active periods for trading the Japanese yen (JPY) and other Asian currencies. During this time, significant movements often occur in major currency pairs like EUR/JPY and USD/JPY.

- **London**: 7:00 AM to 4:00 PM UTC: As one of the most liquid trading sessions, the London session sees a high volume of trades and is especially important for forex traders. This session overlaps with both the Sydney and New York sessions, creating potential for heightened market activity and volatility.

- **New York**: 1:00 PM to 10:00 PM UTC: The New York session overlaps with the London session and is one of the most liquid trading periods, particularly for the USD. It's typically characterized by sharp movements in major currency pairs and significant market news releases.

Create Custom Sessions: If you wish to trade outside of the standard sessions, you can create a custom trading session by adjusting the start and end times. All times are calculated based on **UTC**, so be sure to convert these times if you're in a different time zone (Check Figure 7).

Example: If you're based in New York and want your algorithm to run from **9:00 AM to 10:00 PM** local time, you will need to adjust the times in UTC. For this, the corresponding time would be **2:00 PM to 3:00 AM UTC**, taking into account the five-hour difference between UTC and Eastern Standard Time (EST).

Show Session Plots: Enabling this option will display a visual representation of the active trading sessions on your chart. This makes it easier to quickly identify when each session starts and ends, giving you a clear view of the market's active periods. These session plots are color-coded and will adjust based on the times you set in the Trading Sessions configuration.

Figure 32 - Sessions Plots on the chart (London Example)

Exit at End of Session: For traders who prefer to avoid holding positions overnight or after a particular session ends, you can enable the **Exit at End of Session** option. This feature automatically closes all open positions when a trading session concludes, regardless of whether the Take Profit (TP) or Stop Loss (SL) levels have been reached. This ensures that no trades are left open after the session closes, helping you avoid the risk of sudden price movements or market gaps that can occur when the market is closed.

3.3.3. Day Filter

Select Trading Days: Here you can choose which days of the week you want the algorithm to be active. By default, all days are selected. Unselect any days where you do not want the algorithm to trade by clicking the checkbox next to the day of the week (Check Figure 8).

3.3.4. Risk Management: Calculating Risk Per Trade

Risk management is essential for any successful trading strategy. In this section, you have the option to define how the algorithm calculates and applies risk for each trade, ensuring that you can control your exposure while striving for consistent profitability (Check Figure 9).

Fixed Risk per Trade: This setting allows you to define a specific percentage of your account balance that you are willing to risk on each signal. By adjusting this value, you can ensure that your risk remains constant regardless of account fluctuations.

How it works:

- To activate this feature, simply click on the "Use Fixed Risk Per Trade" button. Once enabled, you'll need to enter the risk value as a **decimal**, not as a percentage. For example:

  ▪ If you want to risk **2%** of your account balance per trade, enter **0.02** in the input field.

  ▪ For a **0.5%** risk per trade, enter **0.005**.

- This means that for every trade, the algorithm will risk the maximum percentage of your current balance as defined.
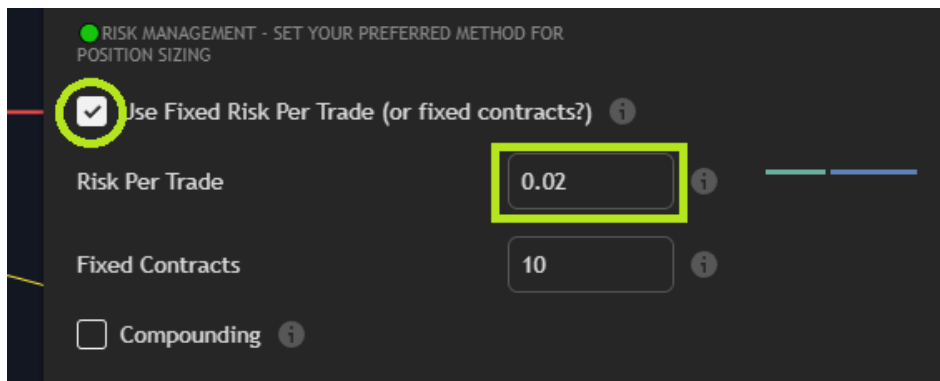
Figure 33 - Risk Management: Fixed Risk Per Trade Option

This risk calculation is applied **per signal** generated by the algorithm. It ensures that each trade is sized based on the maximum risk you are willing to take at that moment, without needing to manually adjust the position sizes.

Fixed Lot Size: Alternatively, you can opt to risk a specific number of **contracts** (lot size) for each trade, regardless of the account balance. This approach can be beneficial if you prefer a more predictable and consistent risk amount, rather than fluctuating based on the current balance.

Understanding Contracts and Lot Size:

- A **contract** typically represents a unit of trading for a given asset, such as futures or options. The size of a contract is fixed based on the asset being traded.
- **Lot size**, in the context of Forex, refers to the number of units or size of the position you're taking. For example, in Forex trading, a **standard lot** represents 100,000 units of the base currency.
- When you're trading assets like Futures, the lot size can also be represented in terms of contracts. A **contract size** defines how much of the underlying asset is being traded.

In TradingView, if you prefer to use a fixed number of contracts or lots for your trades:

- **Turn off** the "Use Fixed Risk Per Trade" option by clicking the button to disable it.
- **Input** the number of contracts you wish to use per trade.

This method is often used by traders who are comfortable with fixed exposure levels, ensuring the same risk amount on each trade, regardless of account size or market conditions.
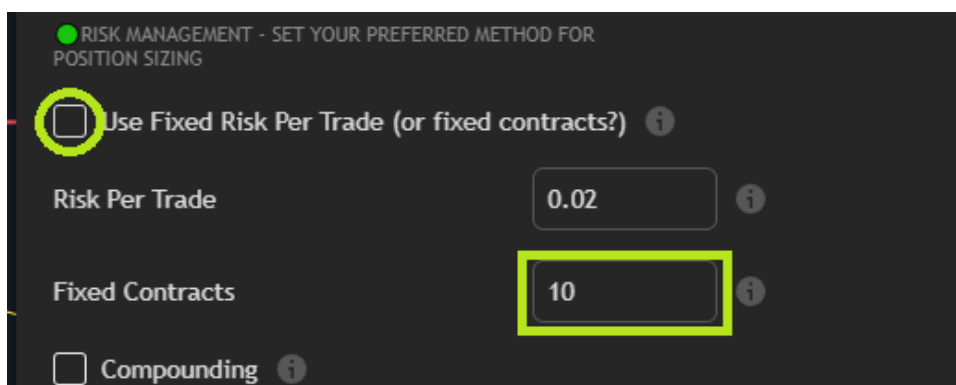
Figure 34 - Risk Management: Fixed Contract (Lot) Size Option

Compounding:

The **Compounding** feature allows the algorithm to reinvest profits into subsequent trades, effectively growing the trade size as the account balance increases. This is an excellent way to **accelerate profits over time**, especially in markets with consistent upward trends. However, this also means that as your account balance grows, so does your exposure, increasing the potential risk.

How it works:

-   In **backtest mode**, you can disable this option to test your strategy without reinvesting profits, focusing only on the initial account balance and position sizes.

-   In **live trading or forward testing** modes, enabling compounding allows the algorithm to increase trade sizes as profits accumulate. This can significantly **boost the overall profitability** of your strategy in the long term.

In periods of market retracement or drawdowns, compounding can help **reduce the impact of a drawdown** by allowing the algorithm to adjust position sizes downward in accordance with your balance, minimizing the effect of losses.
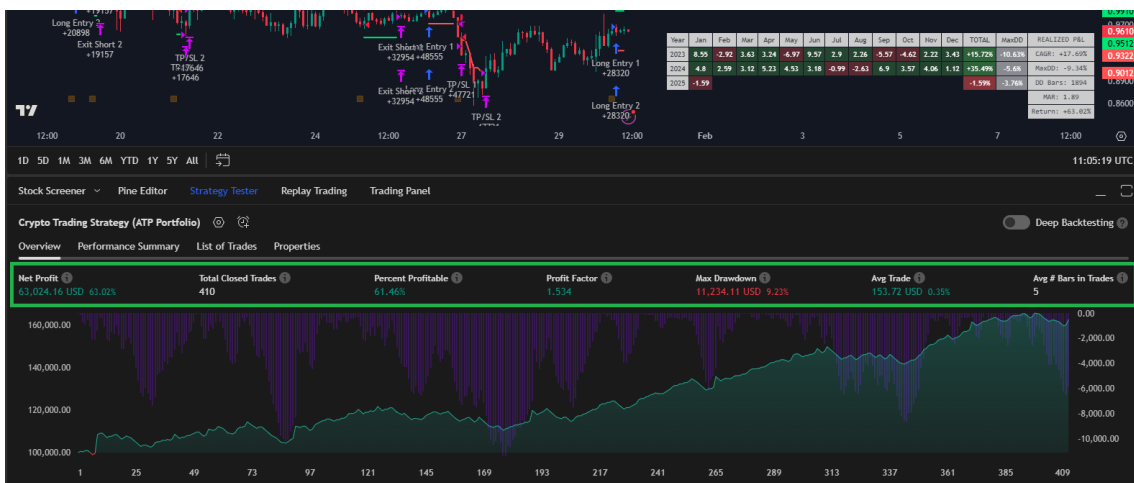
Figure 35 - Results without Compounding Option (Example)

Figure 36 - Results with Compounding Option (Example)

3.3.5. Position Sizing: ATR and Contract Sizing

In this section, you will define how the algorithm calculates your **Stop Loss**, **Take Profit**, and **Trailing Stop Loss** levels. These parameters are essential for managing risk in each trade, ensuring that your positions are protected and your profit-taking strategy is aligned with market conditions.

You have the flexibility to choose between two methods for calculating these levels (Check Figure 10):

1. **ATR (Average True Range):** This method allows the algorithm to adjust the **Stop Loss**, **Take Profit**, and **Trailing Stop Loss** levels based on current market volatility. The ATR value dynamically changes depending on how much the price moves, which helps the algorithm adapt to more or less volatile market conditions.

2. **Fixed Distance (in pips):** If you prefer to use a consistent pip value for your risk management levels, you can select the **Fixed Distance** method, where the **Stop Loss**, **Take Profit**, and **Trailing Stop Loss** will remain at a fixed distance (in pips) from the entry price.

Using Fixed Distance (in pips)

If you prefer a fixed pip distance for your risk management levels, **deselect** the checkbox for "Use ATR Method (or pips?)". Then, you can input the number of pips you want for your **Stop Loss**, **Take Profit**, and **Trailing Stop Loss** (Check Figure 11).

How It Works:

- In this case, the **Stop Loss**, **Take Profit**, and **Trailing Stop Loss** will be placed at a **fixed distance** (in pips) from the entry price. This method provides consistency, regardless of market conditions.

- For instance, if you choose **50 pips** for all three levels, the algorithm will set your risk parameters at a fixed **50 pips** away from the entry point.
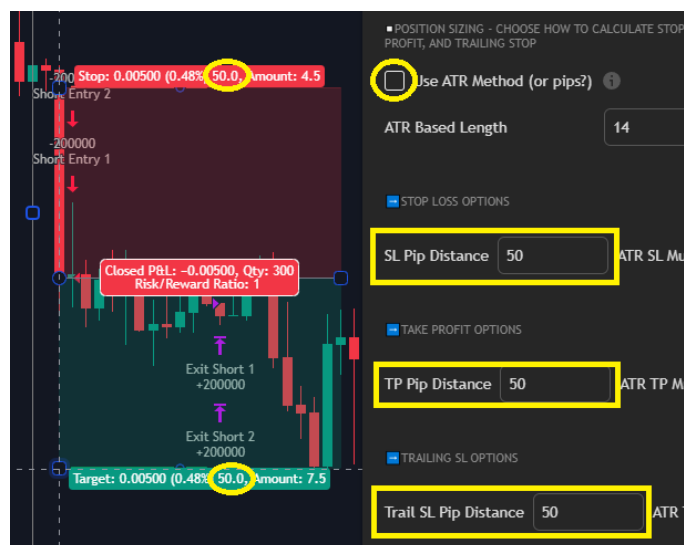
Figure 37 - Risk Management with Fixed Pips Option

Using the ATR Method

If you opt for the **ATR method**, **select** the corresponding box ("Use ATR Method (or pips?)") to enable it. Below, you will be prompted to choose an ATR length (the default is **14**) (Check Figure 10).

What is the ATR? The **ATR (Average True Range)** is a technical indicator widely used to measure market volatility. It was developed by **J. Welles Wilder** and calculates the average range between the high and low prices over a specified number of periods. In simple terms, ATR measures how much the price of an asset moves up and down within a given time period. Read More About ATR

Advantages of Using ATR for Risk Management:

- **Dynamic Adjustment**: ATR automatically adjusts your risk levels according to the current volatility of the market, making your risk management more flexible.

- **Avoids Premature Stops**: In more volatile markets, ATR allows for a wider **Stop Loss**, reducing the chance of being stopped out prematurely due to normal market fluctuations.

- **Improves Take Profit Levels**: With ATR, **Take Profit** levels can be adjusted to a more realistic value based on expected price movement, ensuring you don't set unrealistic targets during periods of low volatility.

How It Works:

- After selecting the ATR method, you'll need to enter a value for the **Multiplier**. This value will act as a constant and will be multiplied by the ATR number to determine the final distance for your **Stop Loss**, **Take Profit**, and **Trailing Stop Loss** levels.

- For example, if the ATR value is **255** it means it is equivalent to **25.5 pips**, and if you set a **Multiplier** of **3**, the algorithm will set the **Stop Loss** and **Take Profit** levels at **76.5 pips** (3 x 25.5 pips) from the entry price.

- The same **Multiplier** applies to the **Trailing Stop Loss**, ensuring that the stop loss level moves as the market fluctuates. For example, if the market moves in your favor, the **Trailing Stop Loss** will also adjust by the same amount (in this case, 76.5 pips) based on the volatility.
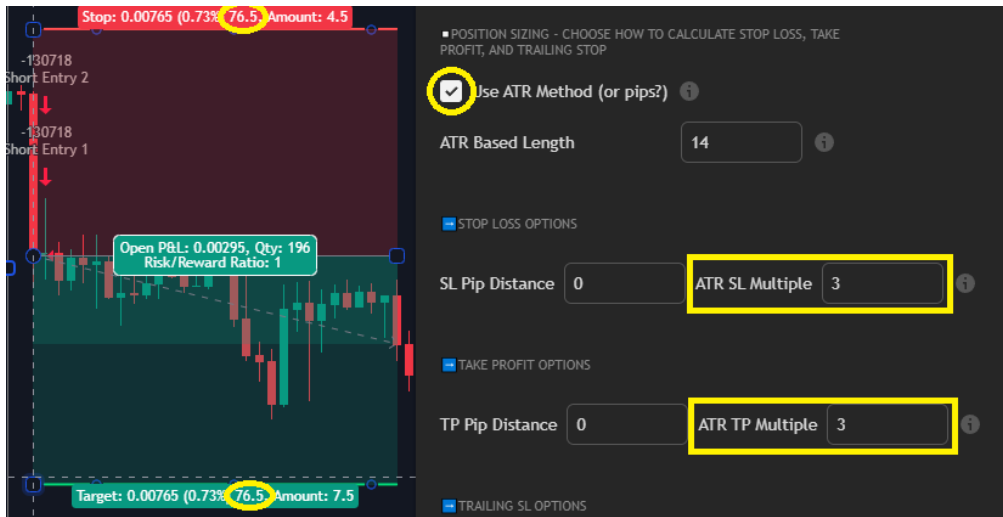
Figure 38 - Risk Management with ATR Option

3.3.6. Take Profit Options

The **Take Profit** feature in the algorithm allows you to define exit points for your positions, ensuring that profits are locked in once the market reaches your predefined target levels. There are two main options for how you can set up your **Take Profit** strategy (Check Figure 12):

1 Take Profit (1 TP): This is the simplest option, where you define a single **Take Profit** level for the entire position. Once the price reaches this level, the entire position will be closed, locking in the profits. This method is ideal for traders who prefer to exit the position at one specific target, taking profits once that level is hit, regardless of how the market moves afterward. (**Remember**, the calculation of the Take Profit level is based on the method you selected in the previous section—either with a fixed pip value or using the ATR multiple.)
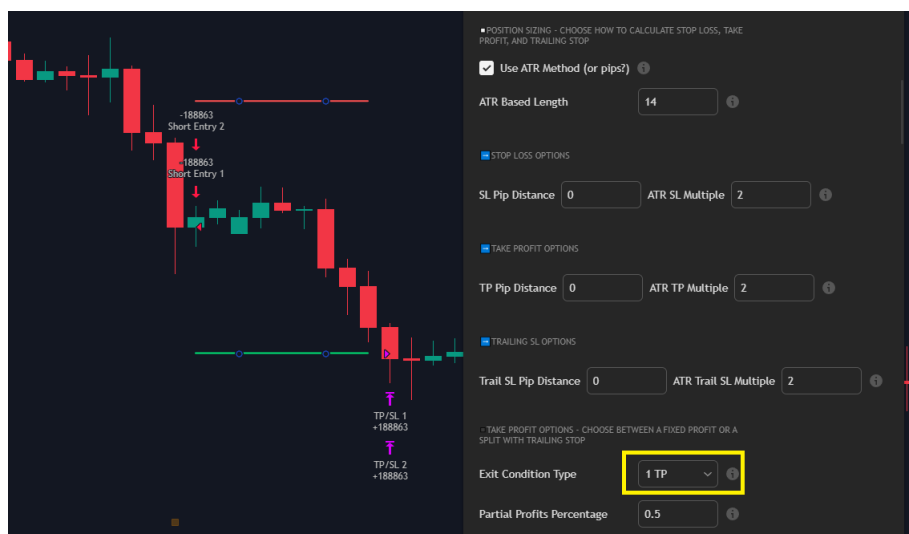
Figure 39 - 1 Take Profit Option

2 Take Profits (2 TPS): This option introduces a more advanced risk management strategy aimed at scaling profits. The goal is to manage risk while maximizing potential gains as the market moves in your favor.

In this case, part of the position is closed at the first Take Profit level defined earlier, which is the same level you would use in the 1 TP option. The remaining portion of the position stays open and is then managed using a **Trailing Stop Loss**, which allows the stop loss to move in line with the market as it continues to move in the favorable direction.

The **Trailing Stop Loss** is updated only when the market moves in the direction of the trade. For example, in a **long position**, the trailing stop will adjust upward as the price increases, but if the price starts to fall, the stop loss remains at its last updated level. The same logic applies to **short positions**, where the trailing stop is updated downwards as the price decreases. However, if the price moves upwards, the trailing stop remains at its most recent update.

The **distance of the trailing stop loss** is always based on the value of the ATR or Pips that you selected in the previous section.

This strategy is ideal for traders looking to scale their positions and capture more profit during favorable market trends, while still managing risk through the trailing stop loss. You can also define the **Partial Profits Percentage**, determining the percentage of the position that will be closed at the first Take Profit level (e.g., 50% = 0.5).
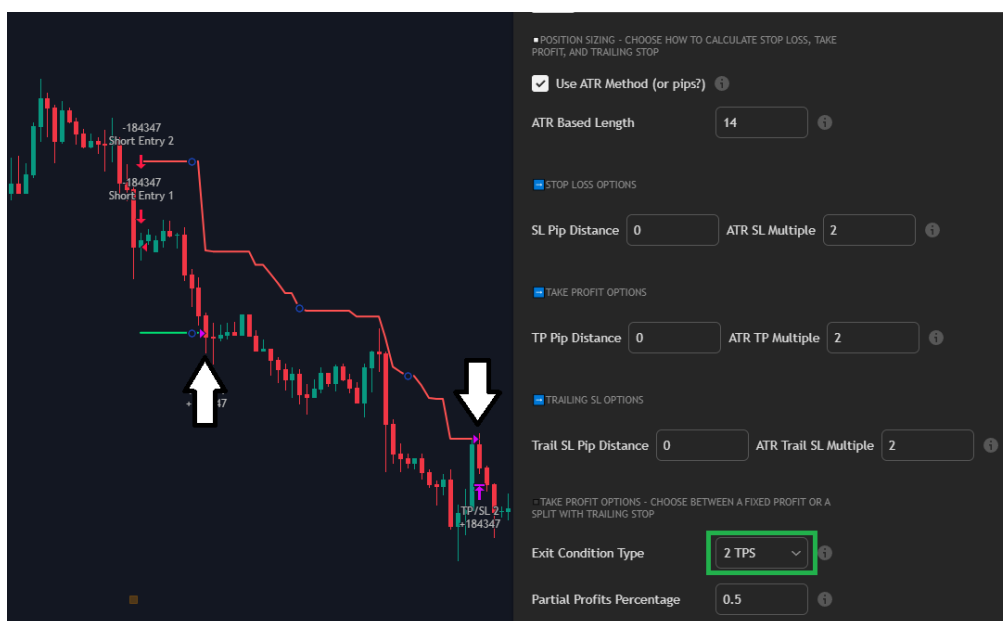
Figure 40 - 2 Take Profit Option

3.3.7. Additional Rules

The Additional Rules section allows for further refinement of the entry criteria, ensuring that the algorithm only executes trades under specific, well-defined conditions. These rules help filter out potential false signals, manage risk, and align with your overall trading strategy. There are two key rules in this section: the **Candle Rule** and the **Baseline ATR Rule** (Check Figure 13).

Candle Rule: The **Candle Rule** introduces a waiting period (defined by the user in the "Multiple" input) before confirming the validity of a trade entry. This rule ensures that the conditions for entering a trade remain valid over a longer period, reducing the chance of executing trades based on transient or false signals.

For example, if one condition (such as volume) is unmet, the bot will wait for one more candle to see if the condition aligns properly with the rest of the trading criteria. This extra waiting period helps to verify that the market is genuinely moving in the expected direction and that the signal is not a momentary fluctuation.

This rule is particularly useful for **higher timeframes** (such as 4-hour, daily, or weekly charts), where the market's movements may be more volatile and prone to generating false signals over short periods. By waiting for the next candle to close, the strategy ensures that there is greater alignment between multiple technical factors before entering a position. It improves **entry accuracy** and can filter out many of the spurious signals that might appear in lower timeframe trading, leading to more reliable trades.

Figure 41 - Trading Nuance: Candle Rule

Baseline ATR Rule: The **Baseline ATR Rule** ensures that a trade will only be considered if the price is within a specific distance from a predefined **baseline** level. This baseline is calculated using a multiple of the **ATR** value, which allows the algorithm to dynamically adjust for varying market volatility.

The purpose of this rule is to restrict trades to areas that are relatively close to the trend level, thereby preventing trades when the price has already moved too far away from the baseline. This approach helps to avoid entering trades that are overly extended, reducing the likelihood of entering against the prevailing market direction.

In practical terms, the algorithm will only consider entries that are within a certain distance of the baseline, as defined by a multiple of the ATR value. This is visually represented by the **ATR Plus** and **ATR Minus** bands, which mark the upper and lower boundaries of the entry range. These bands visually guide traders by showing the allowed distance for valid entries from the baseline (Check Figure 14).
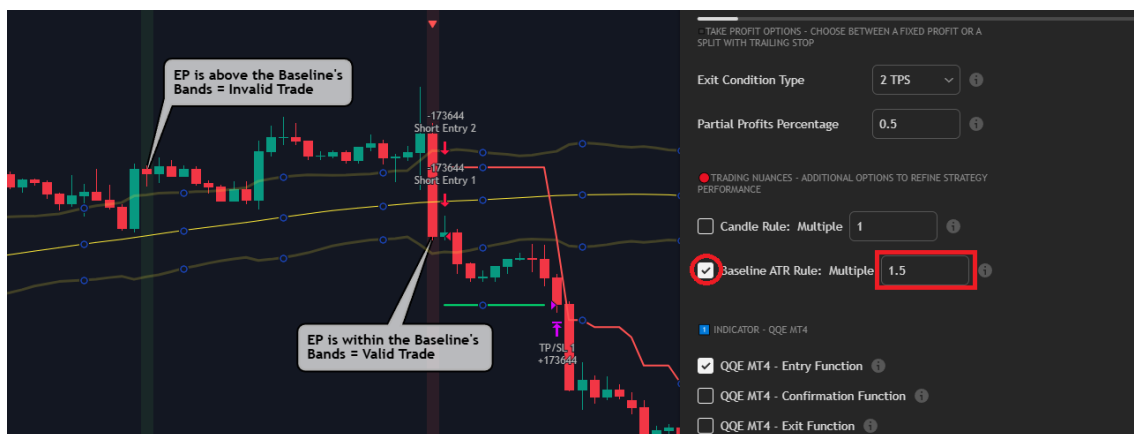
Figure 42 - Trading Nuance: Baseline ATR Rule

These rules work together to ensure that trades are executed only when the conditions align consistently, helping to filter out noise and increasing the likelihood of successful trade entries. Whether you're looking for **accurate entries** or ensuring that you don't enter trades too far from the trend, these rules serve as essential tools for improving the overall performance of the algorithm.

3.3.8. Indicators

Indicators play a crucial role in shaping how the algorithm identifies trade opportunities, filters out bad signals, and manages trade exits. In this section, you can configure multiple types of indicators, each with its own function within the strategy. The flexibility in choosing from a wide selection of indicators allows you to fine-tune your trading approach, adapting it to different market conditions and personal preferences.

Each indicator has a dedicated input section where you can adjust its parameters, such as period length, calculation method, or specific thresholds. Below is a breakdown of the different types of indicators available in the system and their respective functions (Check Figure 20):

C1 (Main Indicator)

The **C1 Indicator** serves as the **primary indicator** for your strategy. This is the core signal generator that determines trade entries, confirmations, and exits, depending on how it is configured (Check Figure 15).

- You can select your **C1 Indicator** from the "Indicators" tab, where over 50 different options are available, with new indicators being continuously added.

- Once an indicator is selected, you can assign it specific roles, such as a **trigger signal** (entry condition), **confirmation** (to strengthen the validity of a trade setup), or even an **exit signal** (to determine when to close a trade).

- The ability to customize the C1 Indicator provides full flexibility, allowing traders to **adapt the system to different market conditions and trading styles**.

- Some examples of indicators available for C1 include **Moving Averages, RSI, MACD, Bollinger Bands, SuperTrend, Squeeze Momentum, and more**.

Choosing the right C1 Indicator is crucial because it forms the foundation of your trading logic. A poorly chosen main indicator can lead to unreliable signals, while a well-optimized one can significantly enhance accuracy.

C2 (Secondary Indicator or "Filter")

The **C2 Indicator** acts as a **secondary filter** to refine trade entries. While it functions in the same way as the C1 Indicator (selected from the same range of indicators), its purpose is strictly to **confirm the validity of trade signals** [(Check Figure 16)](#).

- The key difference between C1 and C2 is that **C1 generates signals**, while **C2 validates them**, ensuring that only the highest-probability trades are executed.

- By adding a second layer of confirmation, the **C2 Indicator reduces false signals** and prevents entries that lack strong supporting conditions.

- For example, a trader might use **C1 = RSI (Relative Strength Index) for overbought/oversold signals**, and **C2 = MACD (Moving Average Convergence Divergence) to confirm trend direction**.

Using a **dual-indicator approach** (C1 + C2) helps eliminate **low-quality setups**, filtering out trades that do not align with the broader market conditions.

Volume Indicator

Volume plays a critical role in understanding market participation and the strength behind price movements. The **Volume Indicator** functions similarly to the C2 Indicator, acting as an additional **confirmation tool** for trade entries [(Check Figure 17)](#).

- Over **10 volume-based indicators** are available for selection, allowing traders to analyze different aspects of market activity.

- Volume indicators help **determine whether a price movement is supported by strong participation** or if it is likely a weak, unsustainable move.

- For example, if the C1 and C2 indicators suggest a buy trade, but the **volume is low**, the trade may lack momentum and could result in a false breakout.

By integrating a Volume Indicator, traders can avoid entries that lack the necessary momentum, improving trade accuracy.

Exit Indicator

The **Exit Indicator** provides an additional tool for closing trades based on indicator-based signals. While stop-loss and take-profit levels define predefined exit points, an Exit Indicator **reacts dynamically to price movements** and can help **close positions at the optimal moment** (Check Figure 18).

- Just like the C1 and C2 Indicators, you can select an Exit Indicator from the same set of available indicators.

- The Exit Indicator is typically **a faster-reacting indicator**, meaning it is designed to respond quickly to price reversals or signs of trend exhaustion.

- This allows traders to **secure profits or minimize losses before a trend reverses completely**.

For example:

- A trader using a Moving Average as an Exit Indicator could set a rule to close the trade when the price crosses below a short-term moving average, signaling a trend shift.
- Another trader might use RSI as an Exit Indicator, closing trades when RSI moves into overbought/oversold levels, indicating exhaustion.

The Exit Indicator provides an additional level of trade management, ensuring that **positions are not held beyond optimal conditions**.

Baseline Indicator

The **Baseline Indicator** is another essential tool within the strategy, offering over **15 different options**, including various types of moving averages and trend-following tools. It functions similarly to the **C1 Indicator**, allowing traders to use it as a (Check Figure 19):

- **Trigger Signal** (to initiate trades)
- **Confirmation Tool** (to validate signals)
- **Exit Signal** (to determine trade closures)

However, the Baseline Indicator has a **unique role** compared to C1 and C2. It is primarily used to **identify the overall trend or market structure**, helping traders determine whether they should be focusing on **buying, selling, or staying out of the market**.

For example:

- If the price is above the Baseline Indicator (e.g., a 200-period EMA), the trend is bullish, and only long trades will be considered.
- If the price is below the Baseline Indicator, the trend is bearish, and only short trades will be considered.

The **ATR Plus** and **ATR Minus** bands (discussed in the "Baseline ATR Rule") help visualize how far the price has deviated from the Baseline, ensuring trades are executed within a reasonable distance from the trend level.

Using a Baseline Indicator helps traders avoid **counter-trend trades** and ensures that positions align with the prevailing market direction.

Customizing Indicator Inputs & Settings

Each of these indicator options comes with a dedicated **settings section**, allowing full customization of their inputs and parameters (Check Figure 20).

This high level of customization ensures that each trader can adapt the system to **their own trading preferences and strategies**, maximizing flexibility and efficiency.

The indicator selection process is one of the most **critical aspects** of setting up the algorithm. With the ability to choose from **over 50 primary indicators, 10+ volume indicators, and 15+ baseline indicators**, traders have **unmatched flexibility** in building a system that aligns with their goals.

By properly configuring **C1, C2, Volume, Exit, and Baseline Indicators**, traders can:

- ✓ Enhance trade accuracy
- ✓ Filter out weak signals
- ✓ Optimize entries and exits
- ✓ Ensure trades align with market trends

With new indicators being regularly added, the system continues to evolve, offering **more possibilities for refining and improving trading strategies** over time.

3.3.9. Trade Type

Selecting the appropriate trade type is a fundamental step in configuring the algorithm, as it determines whether trades will be executed in one direction only or in both directions. This setting should align with your overall trading strategy, market outlook, and risk tolerance.

The algorithm provides two trade type options (Check Figure 21):

- **Take Long Positions**: When this option is selected, the algorithm will only execute **buy trades** (long positions). This setting is ideal for traders who are confident in a bullish market trend and prefer to capitalize only on upward movements. By limiting trades to buys, the strategy avoids entering short positions, which may be useful in assets that historically trend higher over time (e.g., certain stocks or crypto assets).

- **Take Sell Positions**: This option restricts the algorithm to executing **sell trades** (short positions) exclusively. It is suitable for traders who expect a bearish market condition and want to profit from price declines. This setting is commonly used in markets where downward trends are frequent, such as during economic downturns or in assets that experience strong cyclical declines.

- **Both Options**: This is the most flexible option, allowing the algorithm to execute both **buy and sell trades** based on the entry conditions defined in previous sections. It enables the trader to take advantage of both bullish and bearish movements, making it a suitable choice for range-bound markets or trend-following strategies that aim to profit from price movements in either direction.

Choosing the correct trade type depends on market conditions, asset characteristics, and your trading objectives. For example, some traders may prefer to trade both directions in highly volatile forex pairs, while others may focus only on long positions in stock indices that have a long-term upward bias.

This setting is easily adjustable, allowing traders to modify their approach as market conditions change.

3.3.10. PineConnector

What is PineConnector?

PineConnector is a powerful tool that enables full automation of your trading strategy. By integrating PineConnector with your broker, you can execute trades automatically based on signals from TradingView, eliminating the need for manual intervention. This transforms your strategy into a fully automated trading system, ensuring efficiency and consistency in trade execution.

Supported Platforms

PineConnector allows automation between TradingView and MetaTrader 4 (MT4) or MetaTrader 5 (MT5). This integration ensures that signals generated on TradingView are seamlessly transmitted to your broker's platform, executing trades based on predefined rules.

Setting Up PineConnector for MT5

To automate your strategy on MetaTrader 5 using PineConnector, follow these key steps:

1. **Download the PineConnector EA** – Access your PineConnector portal and download the MT5 EA.

2. **Install the Expert Advisor** – Place the downloaded files in the Experts folder of your MetaTrader 5 directory.

3. **Enable DLL Imports & Algo Trading** – Adjust the settings in MetaTrader 5 to allow the execution of automated trades.

4. **Attach the EA to the Chart** – Refresh the Expert Advisors section and attach PineConnector EA to your trading chart.

5. **Enter Your License Key** – Copy and paste your License ID from the PineConnector portal to activate the EA.

For a **detailed step-by-step guide**, please refer to the official **PineConnector documentation**:

Setting Up PineConnector for MT4

Setting Up PineConnector for MT5

Setting Up PineConnector in the Indicators Testing Bot

Once PineConnector is correctly installed on your MetaTrader platform, you need to configure it in **TradingView** within the **Indicators Testing Bot**. This is done by enabling automation in the bot settings and filling in the necessary parameters (Check Figure 22).

Enabling PineConnector Automation

Inside the **Indicators Testing Bot**, select the option **"Use PineConnector Automation"** to activate automated trade execution.
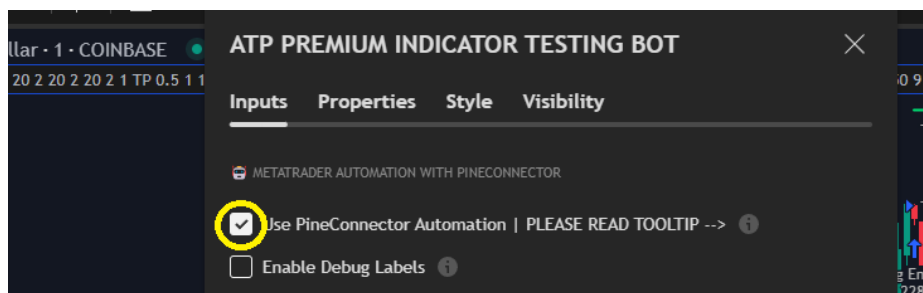
Figure 43 - Enable PineConnector Automation Option

Configuring the Inputs

There are **four key inputs** that must be correctly set up to ensure proper automation:

1) License ID

- Insert your **PineConnector License ID**, which can be found in your PineConnector account.

Figure 44 - Where to find your PineConnector License
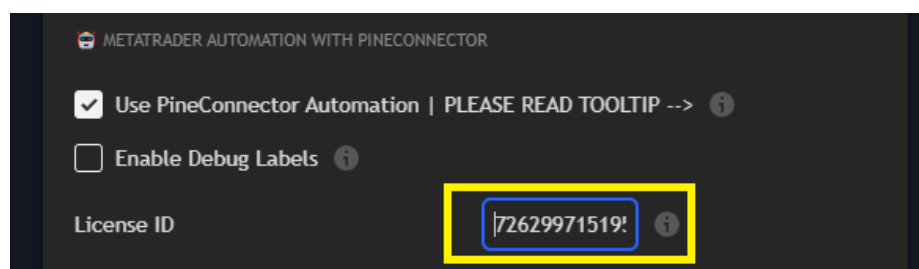
Figure 45 - License ID Input

2) Risk (Trading Volume)

The value you enter here must match the **risk type** selected in your **PineConnector account settings**. PineConnector allows two risk types:

a) **Fixed Lot Size** → If you selected "Lots" in PineConnector "Volume Type" Option, the value you enter here represents the **lot size per trade**.

   o   Example: If you want to open trades with **0.01 lots**, enter **"0.01"** in this field.
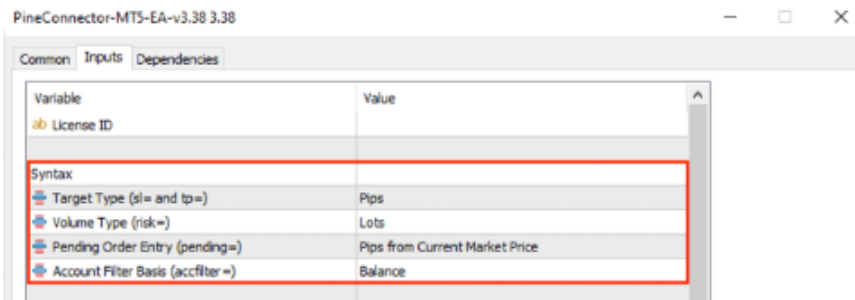
Figure 46 - PineConnector's Volume Type Option
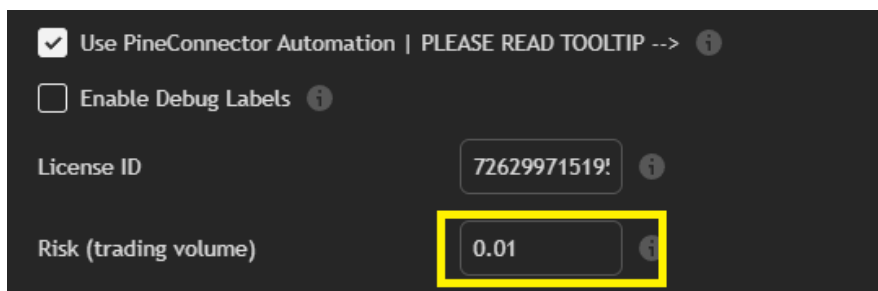
Figure 47 - Risk (Trading Volume) Input

b) **Percentage of Account Balance** → If you selected **"Percentage"**, the value you enter here defines the **percentage of the account used per trade**.

   o   Example: If you want each position to risk **1% of your account balance**, enter **"1"**.

3) Spread Filter

This input prevents trades from being opened if the **spread** exceeds a set value. Example:

-   If trading **EUR/USD**, and you don't want to enter a trade if the spread is higher than **2 pips**, enter **"2"** in this field.
-   If the **spread exceeds 2 pips**, PineConnector will block the trade.

Figure 48 - Spread Filter Input

To disable this filter, enter a large number like **1000**, ensuring all trades are executed regardless of the spread.

⚠ **Important:** The ideal spread filter value depends on the **asset** you are trading: **EUR/USD** has a much lower spread than **Bitcoin**, so different values may be needed.

4) "Asset Pip Value"

- This defines the **pip value** for different markets and ensures stop loss (SL) and take profit (TP) calculations are correct.

- Use the following values:

    - **Forex, Stocks, Indices, Metals → "1"**

    - **Cryptocurrencies, Commodities → "10"**

Figure 49 - Asset Pip Value Input

Enable Debug Labels Extra Option

This option **adds labels** at each valid **entry point**, displaying the exact message that would be sent to PineConnector. It's useful for **verifying** whether the automation is set up correctly before executing real trades. If the labels show incorrect data, you can adjust your settings before activating live trading.
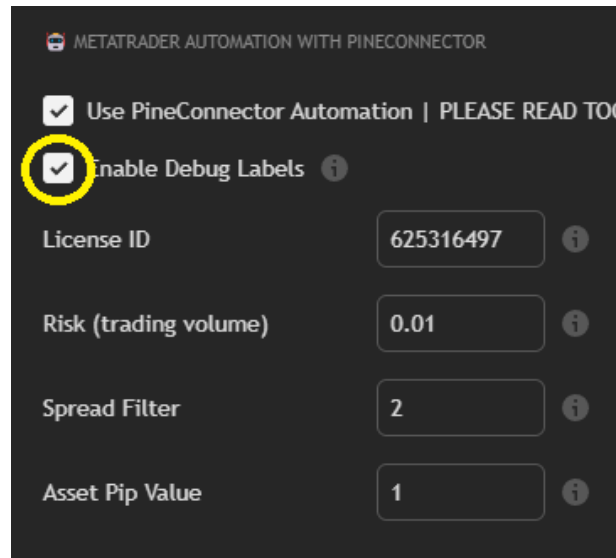
Figure 50 - Debug Labels Option

To better understand how **PineConnector automation** works in practice, let's look at an example. In this case, we have a **short trade signal** on the **EUR/USD pair** with **Debug Labels enabled**.

By enabling **Debug Labels**, we can see the exact message that **would have been sent** to PineConnector when this valid signal was identified by the algorithm.

Breaking Down the Message

In the debug label, we can observe the following key elements:

- License ID: Displays the **PineConnector License ID** associated with the account.

- Position Type: Indicates whether the trade is **Long (Buy) or Short (Sell)**. In this case, it is a **Short trade**.

- Trading Pair: Shows the asset being traded, in this case, **EUR/USD**.

- Risk: Displays the **trade volume** (0.01 lots), which matches what was set in PineConnector.

Figure 51 - PineConnector Message (Example)

- Stop Loss & Take Profit: These values correspond **exactly to the number of pips** calculated by the algorithm.

📌 **Important:** Ensure that in PineConnector, the stop loss and take profit values are set to **pips**, as this is the format the algorithm sends (Check Figure 46).

- Spread Filter: Here, we see the **spread filter value (2 pips)**, ensuring the trade is only executed if the spread is below this level.

- Comment Field: The comment field may contain additional information used by the algorithm to classify the input type.

⚠ **Note:** Depending on whether you choose **one take profit (TP1) or two take profits (TP1 & TP2)**, the algorithm sends **two separate signals** to PineConnector. This ensures that when **TP1 is reached, TradingView notifies PineConnector** to close the first position while keeping the second trade open until TP2 is hit (the Trailing SL).

This system ensures **proper trade execution and management**, giving you full control over risk and profit-taking within PineConnector.

Handling Early Exit Conditions

If the user has additional **indicators or exit conditions** besides **Stop Loss (SL) and Take Profit (TP)**, TradingView will also send a **message to PineConnector** when an early exit condition is met.

For example, if an indicator signals that a trade should be closed **before reaching TP or SL**, the algorithm will send a **close position** command to PineConnector, ensuring that trades exit the market under the right conditions.

Figure 52 - PineConnector Close Position Message (Example)

Automating Alerts for TradingView & PineConnector

Now that we've configured the algorithm, the final step is to **set up alerts** to automate trade execution.

Step-by-Step Guide to Creating Alerts:

1. Check Algorithm Settings

- Ensure that all **input parameters** in the **algorithm's settings** match your **trading strategy**.

2. Verify PineConnector Configuration

- Confirm that the settings in **PineConnector's section** are correct.

- Double-check the **risk settings** and **trade volume configuration**.

3. Create an Alert

- Move your **mouse over the script name** in TradingView.

- Click on the **three dots (More)**.

- Select **"Add Alert"**.
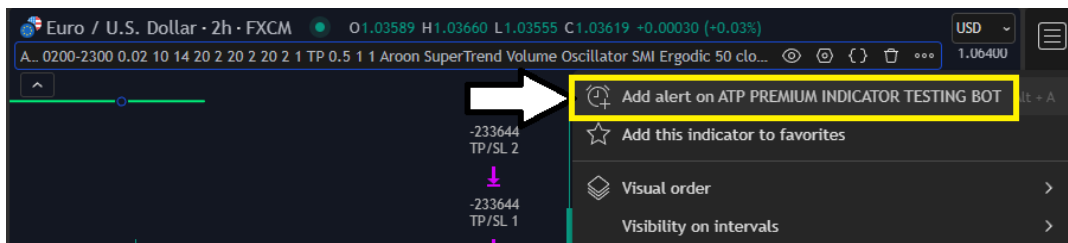
Figure 53 - Add alert option

4. Configure Alert Settings

- **Asset & Timeframe:** Ensure you are on the **correct asset** and **timeframe**.

- **Execution Method:** Choose **"alert() function calls only"**.

- We recommend selecting **"Open-ended Alert"** to keep it active indefinitely.
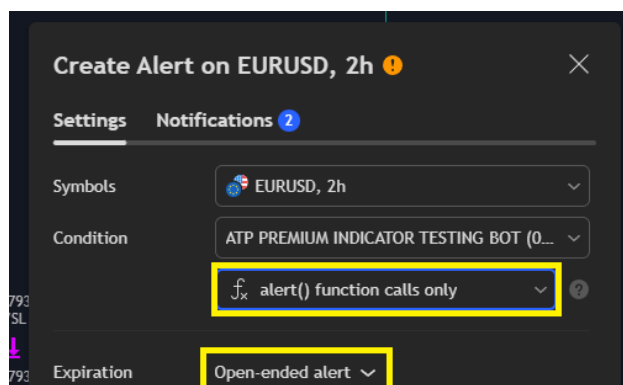
Figure 54 - "Create Alert" Settings

5. Enable Webhook Notifications

- Tick the **Webhook URL** option.

- Insert the **PineConnector webhook URL**: https://pineconnector.net/webhook/

6. Optional Notifications

- You can enable additional **notifications** (email, app alerts, etc.), but the main signal will now be sent **directly to PineConnector**.
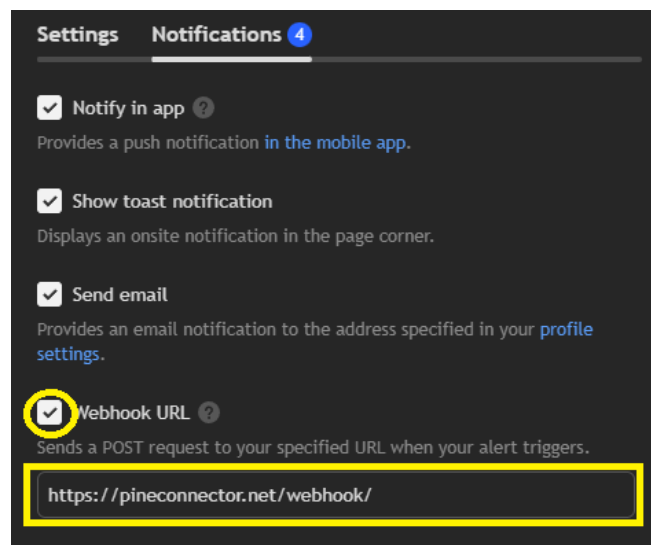
Figure 55 - PineConnector Webhook URL Input

From this point forward, any new trade signal detected by the algorithm will be **automatically sent to PineConnector**, executing the trade on your **broker account**.

Setting Up Alerts for Multiple Assets & Timeframes: If you want to **trade multiple assets** or **timeframes**, simply repeat this **alert setup process** for each one.

Symbol Mapping in PineConnector

The **Symbol Mapping** feature allows users to seamlessly convert symbol names from **TradingView** to those used by their broker. This ensures that when a trading signal is generated on TradingView, it is **automatically translated** into the correct format required by the broker, eliminating errors in order execution.

This feature is particularly useful when switching between brokers, as different brokers may use **custom symbol formats** (e.g., including prefixes or suffixes). With Symbol Mapping, traders no longer need to **delete and recreate alerts** whenever they change brokers.
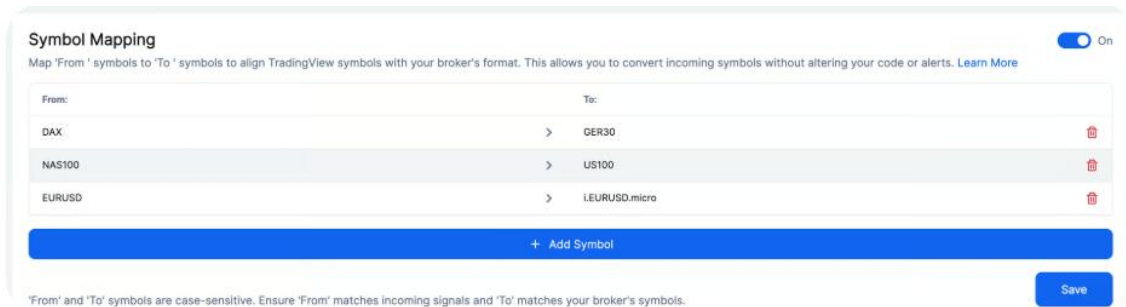
Figure 56 - PineConnector Symbol Mapping

How Symbol Mapping Works

- TradingView might generate a signal for **EURUSD**, but your broker may require it to be formatted as **i.EURUSD.micro**.

- **Symbol Mapping** automatically converts the TradingView signal into the correct format so that the trade is properly processed in **MetaTrader 4/5**.

For a **detailed explanation and setup guide**, refer to the **official PineConnector documentation**: **Setting Up PineConnector "Symbol Mapping"**

Alternative Method: Manual Symbol Mapping in the Algorithm

If your PineConnector **does not support Symbol Mapping**, you can still manually adjust symbols using the **MetaTrader Symbol option** in our algorithm (Check this Figure).

- This feature allows you to **manually add prefixes or suffixes** to match the broker's symbol format.

- Simply enter the correct **symbol name** required by your broker in the designated field, ensuring that trade signals are processed correctly.

This provides a simple workaround for brokers with different symbol conventions, allowing full automation without needing to modify PineConnector settings.

3.3.11. Monthly Results Table

Tracking performance over time is essential for evaluating the effectiveness of a trading strategy. The **Monthly Results Table** provides a structured overview of the algorithm's results, allowing traders to assess profitability, risk, and performance trends over time (Check Figure 24).

Enable Monthly Tracking

By enabling this option, the algorithm will generate a **comprehensive monthly table** displaying key performance metrics. This feature helps traders gain deeper insights into their trading results, facilitating data-driven decision-making and continuous strategy optimization (Check Figure 23).

Structure of the Monthly Results Table

1. **Monthly Breakdown**

- Each month is displayed separately, showing **Net Profit/Loss** for that period.
- This allows traders to identify fluctuations in profitability and assess whether specific market conditions impact their results positively or negatively.
- Comparing month-to-month performance helps determine whether adjustments to the strategy are necessary.

2. **Annual Summary**

- At the end of each year, the table provides a **Total Profit or Loss** for that year.
- It also displays the **Maximum Drawdown** for the entire year, giving insight into the largest equity decline experienced within that period.
- This data is crucial for understanding risk exposure and refining risk management strategies.

3. **Overall Performance Metrics (Side Summary)**

- To provide a **holistic view** of the strategy's long-term performance, the table includes an aggregated section with:

  - **Total Profit/Loss** – The cumulative net profit or loss over all recorded periods.

  - **Maximum Drawdown (Total)** – The highest equity decline experienced across all months and years.

- **CAGR (Compound Annual Growth Rate)** – This metric calculates the **average annual growth rate of the portfolio**, helping traders measure long-term performance in percentage terms.

How This Data Helps Traders

- ✓ **Detect Performance Trends** – By analyzing which months are most profitable, traders can determine whether their strategy performs better in specific market conditions.

- ✓ **Optimize Risk Management** – Monitoring **Maximum Drawdown** helps traders ensure that their strategy does not expose them to excessive risk.

- ✓ **Evaluate Long-Term Profitability** – The inclusion of **CAGR** allows traders to measure their returns over time and compare them to benchmarks like stock market indices or other investment strategies.

By leveraging this data, traders can **make informed decisions**, improve their strategy's robustness, and maximize long-term profitability while managing risk effectively.

3.4. Properties Tab

The **Properties menu** is a critical section in the settings of any trading algorithm, where users can adjust essential parameters that affect the behavior and execution of the strategy. These parameters allow customization according to individual preferences, adjusting aspects such as initial capital, commissions, order size, margin requirements, and more. The settings within the Properties menu directly influence how the strategy will execute, its performance, and risk management, helping to optimize real-market execution.

Essentially, the Properties menu allows users to fine-tune the operational aspects of the algorithm to ensure it aligns with their risk profile and trading goals.
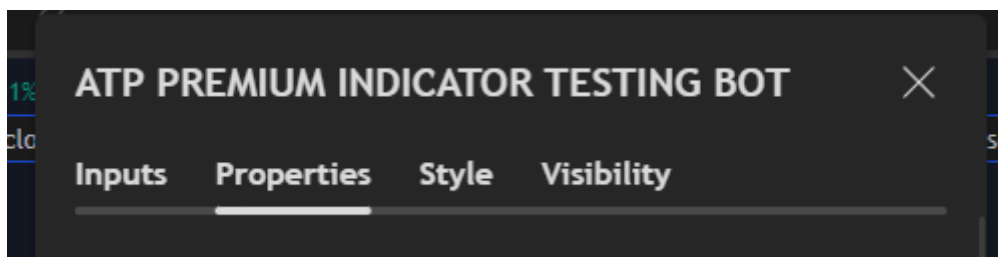
Figure 57 - Properties Tab

3.4.1. Initial Capital

What it is: The amount of money you start with in your trading account, typically referred to as the account balance or equity.

How it affects the strategy: The initial capital is crucial because it sets the base for calculating position sizes, risk per trade, and overall strategy performance. A larger initial capital allows for more flexibility in managing trades and can influence the amount of leverage or margin used.

Customizing it: Adjusting the initial capital directly impacts the risk and position size calculations. For example, a higher initial capital allows for a larger position size at the same risk percentage, and this could result in higher profits (or losses) depending on the strategy's performance.
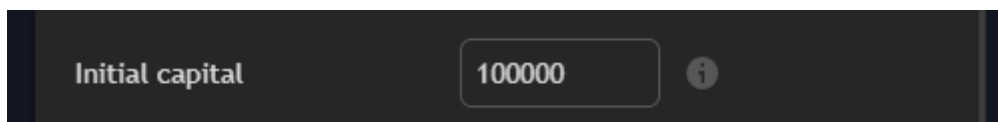
Figure 58 - Initial Capital Input

3.4.2. Base Currency

What it is: The currency used for the account's base value. Typically, this is set according to your broker or account currency.

How it affects the strategy: The base currency is used to calculate the value of positions, profits, and losses. It ensures that all results and trades are standardized to the currency of the account.

Customizing it: If you're trading in a specific market (e.g., EUR/USD), you'll need to set your base currency to match the currency of the asset you're trading. It helps ensure that your account's balance and margin are accurately represented in the right currency.
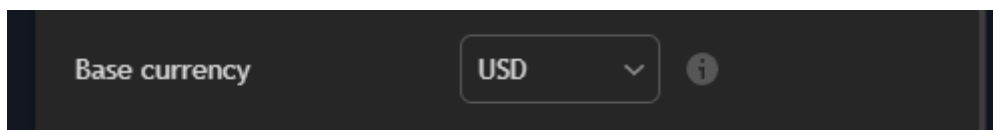
Figure 59 - Base Currency Input

3.4.3. Order Size

What it is: The number of contracts or units per trade.

How it affects the strategy: The order size determines how much capital will be deployed on each trade. It directly affects risk, with larger orders increasing potential profits or losses. Adjusting order size also impacts the ability to handle drawdowns and leverage.

Customizing it: You can define the order size according to your risk tolerance. Larger order sizes increase risk exposure, so it's essential to balance it with other risk management factors like stop loss, margin, and position size.
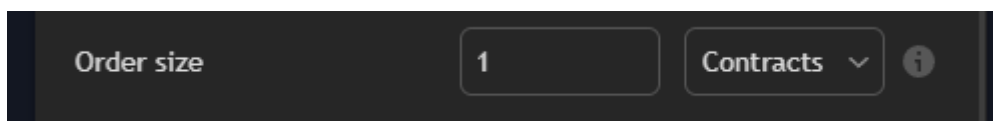
Figure 60 - Order Size Input

3.4.4. Pyramiding

What it is: Pyramiding allows you to add additional positions to an existing trade. It increases exposure by adding new orders in the same direction when the price moves in your favor.

How it affects the strategy: Pyramiding can significantly increase profits when the market trends in your favor. However, it also increases risk, especially in volatile markets. It's crucial to set this value based on your strategy and risk tolerance.
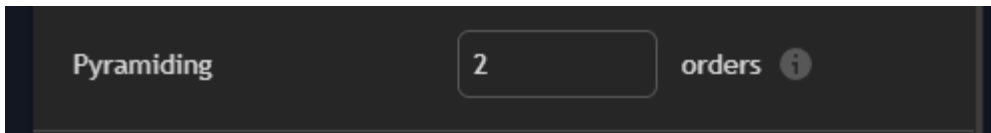
Figure 61 - Pyramiding Input

Default Setting of 2: By default, our algorithms use a pyramiding setting of **2**, which means the algorithm will open two trades for every valid signal. The reason for this is to allow the strategy to have a **Take Profit** level for one position and a **Trailing Stop Loss** for the second position. The two trades are opened with **half the risk** or **half the position size** defined in the input to ensure that the overall risk remains consistent. This is necessary for achieving accurate and reliable results because, in real trading, you might want to lock in profits on one portion of the position while letting the other run with a trailing stop.

Why 2 is necessary: The dual position setup is crucial for achieving more refined risk management and precise take profit/trailing stop executions. Don't worry if you see two positions opened simultaneously—this is by design and does not alter the validity or integrity of the strategy's results.

3.4.5. Commission

What it is: The fee charged by the broker per trade. It can be a fixed fee or a percentage of the order size.

How it affects the strategy: Commissions impact the net profitability of your strategy. Higher commissions eat into your profits, especially with frequent trading. Adjusting this input helps ensure that the strategy is optimized for real-world trading costs.

Customizing it: Be sure to input the commission structure that your broker uses (either fixed or percentage). This ensures that the backtested results reflect the true cost of trading, helping you make more accurate performance predictions.
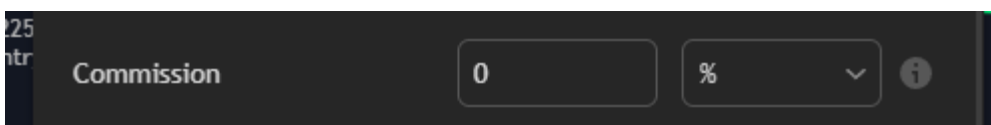
Figure 62 - Commission Input

3.4.6. Verify Price for Limit Orders

What it is: A setting that ensures the limit order is verified against the current market price before it's placed.

How it affects the strategy: This is useful for confirming that the market is at the desired price before submitting a limit order. It helps avoid slippage and ensures that limit orders are filled only at favorable prices.

Customizing it: Enabling this option makes sure that limit orders are executed only if the price condition is met, preventing undesirable entries.
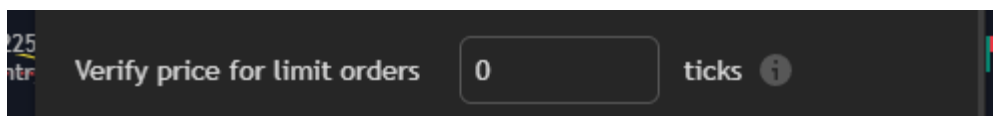
Figure 63 - Verify Price for Limit Orders Input

3.4.7. Slippage

What it is: Slippage refers to the difference between the expected price of an order and the actual price at which the order is filled.

How it affects the strategy: Slippage can occur due to market volatility or order execution delays. It's important to set a slippage tolerance that reflects the market conditions in which your strategy operates. Too much slippage can result in worse trade executions, affecting profitability.

Customizing it: Set a reasonable slippage value to account for market conditions, especially when trading volatile assets. Too tight a slippage value might prevent some trades from executing, while too loose a value could result in unfavorable fills.

Figure 64 - Slippage Input

3.4.8. Margin for Long Positions

What it is: The margin required to open a long (buy) position.

How it affects the strategy: This defines how much capital needs to be reserved for long positions. A lower margin requirement allows you to open larger positions with the same amount of capital, but it also increases your risk of margin calls.

Customizing it: Adjust the margin based on your broker's requirements and your risk tolerance for long positions.
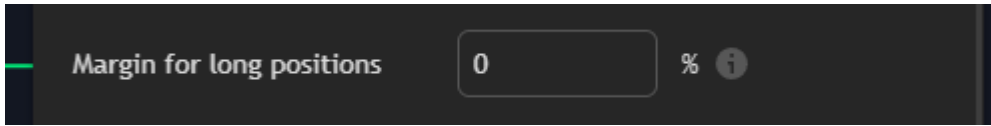
Figure 65 - Margin for Long Position Input

3.4.9. Margin for Short Positions

What it is: The margin required to open a short (sell) position.

How it affects the strategy: Similar to the margin for long positions, this determines how much capital is needed to short an asset. Short positions can be riskier, so it's important to manage this margin properly.

Customizing it: Input the appropriate margin level for short positions based on your broker's requirements and risk management preferences.
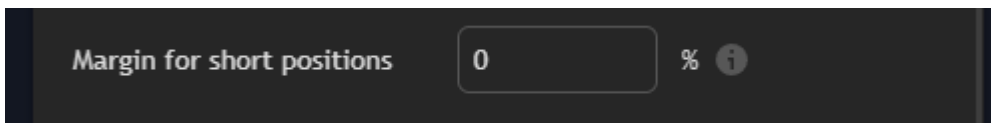
Figure 66 - Margin for Short Position Input

3.4.10. Recalculate

What it is: The option to recalculate the strategy based on any changes made to the input parameters.

How it affects the strategy: Recalculating ensures that the strategy's performance is updated based on any new adjustments. This is important after changing parameters like order size, risk, or margin, as it ensures that the backtesting reflects the new settings.

Customizing it: It's a good practice to recalculate whenever you make any adjustments to your strategy to ensure the results are as accurate as possible.
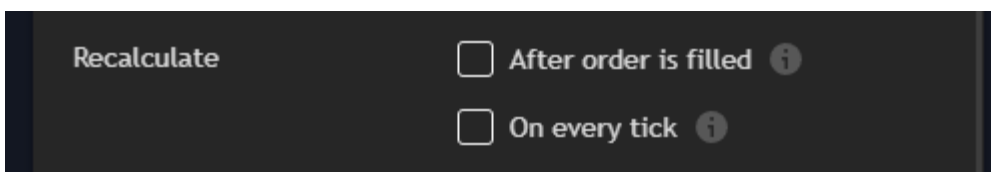
Figure 67 - Recalculate Options

3.4.11. Fill Orders

What it is: This defines whether the strategy will attempt to fill orders in the backtest as soon as the conditions are met or if a delay is factored in.

How it affects the strategy: This setting simulates order fills more realistically, accounting for slippage and execution delays. It's important for simulating live market conditions, where orders might not always fill immediately.

Customizing it: Enabling "Fill Orders" ensures that the backtest reflects more realistic trading scenarios, including potential delays or slippage when orders are placed.
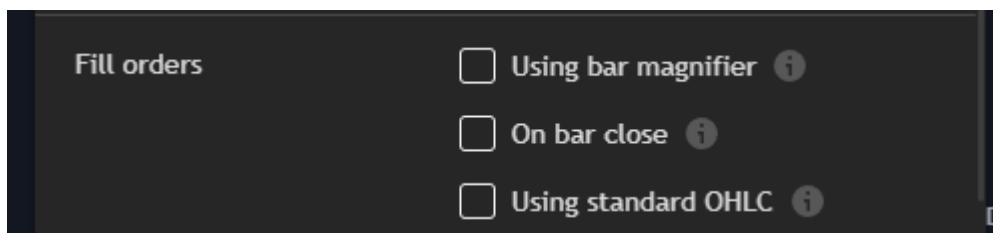
Figure 68 - Fill Orders Options

3.5. Style Menu

The Style menu in TradingView allows you to customize the appearance of the indicators and strategies on your chart. In this section, you can modify visual elements like colors, line thickness, and display preferences for various components of the algorithm. This menu is mainly about how the algorithm's signals, lines, and other elements appear visually, so you can make the chart easier to read and tailored to your personal preferences. For example, you may choose to change the color of buy and sell signals, adjust line thickness for better visibility, or customize background settings. While this menu doesn't directly affect the functionality of the algorithm, it does play a role in your overall chart experience.
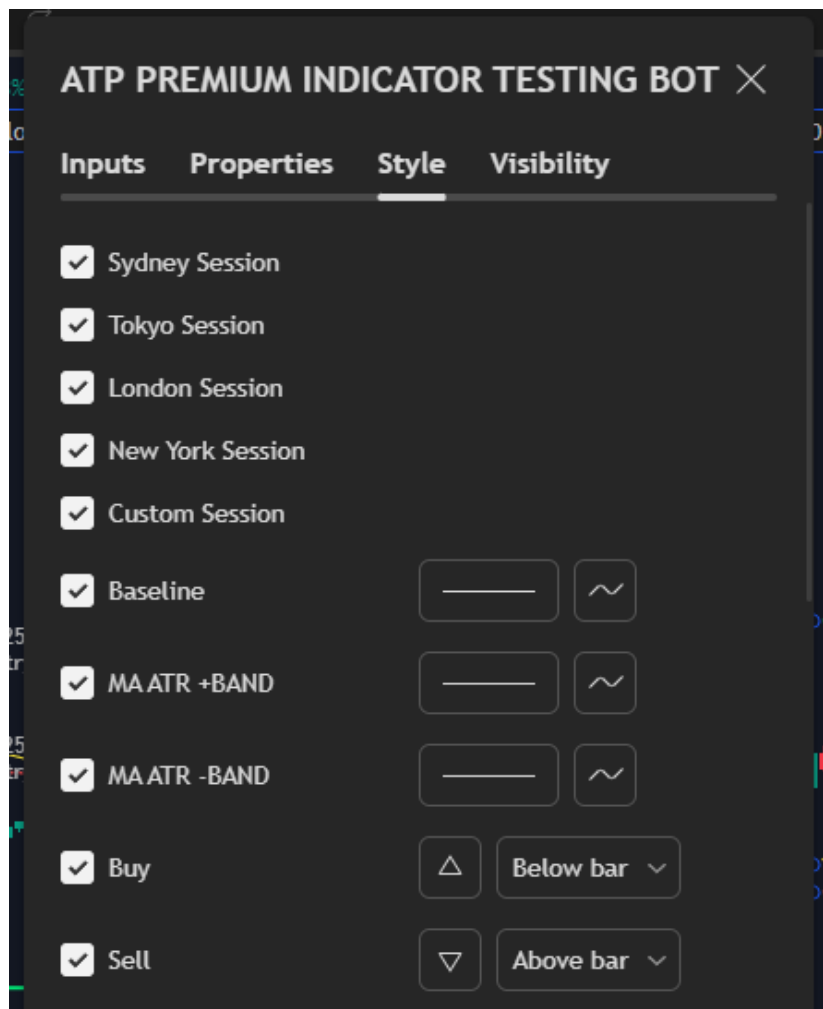
Figure 69 - Style Tab

3.6. Visibility Menu

The Visibility menu allows you to control which elements of the algorithm are visible or hidden on your TradingView chart. This includes choosing whether to display specific indicators, signals, and other elements related to the algorithm's functionality. TradingView provides various options to manage visibility, allowing you to tailor the chart's appearance based on what is most useful for your trading strategy. You can hide or show components like strategy results, buy/sell arrows, and other visual cues without affecting the actual functioning of the strategy. The purpose of this menu is to help you declutter your chart, ensuring only the most important information is visible based on your needs.
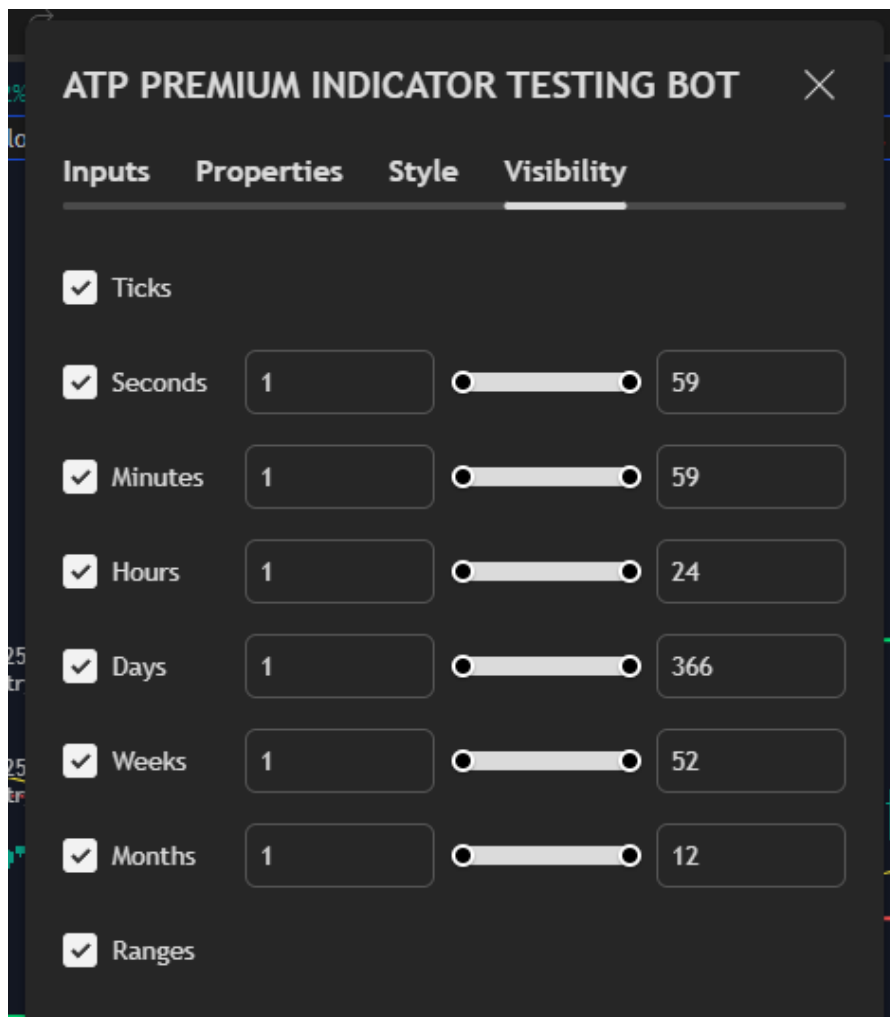
Figure 70 - Visibility Tab

3.7. Monitoring Strategy Performance

After adding the algorithm and customizing the settings, it's important to monitor its performance. The **Strategy Tester** provides detailed information to assess the effectiveness of your trading algorithm. It has four main sections:

3.7.1. Overview

Equity Curve and Key Metrics [(Check Figure 25)](Check Figure 25)

- View the **Equity Curve** for the overall strategy performance, along with key metrics such as:

  - **Net Profit**: The total profit of the strategy.

  - **Win Rate**: The percentage of successful trades.

  - **Profit Factor**: The ratio of total profit to total loss.

  - **Max Drawdown**: The largest drop in account value during the testing period.

  - **Average Profit/Loss per Trade**: The average profit or loss per trade.

  - **Average Trade Duration**: The average duration of trades.

3.7.2. Performance Summary

Detailed Statistics [(Check Figure 26)](Check Figure 26)

- This section provides more detailed data specific to the asset being tested. Metrics include:

  - **Annualized Return**: The annualized return of the strategy.

  - **Sharpe Ratio**: The ratio of the strategy's average return to its risk.

  - **Max Consecutive Wins/Losses**: The largest number of consecutive wins or losses.

3.7.3. List of Trades

Trade History and Export (Check Figure 27)

- The **List of Trades** section shows the entire history of executed trades. The **Export Data** button allows you to download the results in CSV format, which can be analyzed in Excel or other data analysis tools.

Tip: Exporting data from multiple assets can help aggregate results for a more comprehensive analysis.
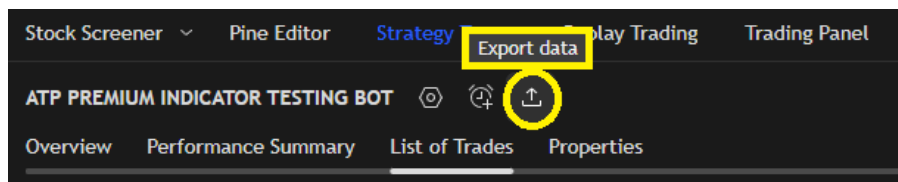
Figure 71 - "Export Data" Option

For detailed instructions on how to work with the exported data, refer to the **Trading Journal Guide**.

3.7.4. Properties

Algorithm Settings Overview (Check Figure 28)

- This section displays the settings that were used to generate the current results, such as risk management parameters and position sizing. It allows you to review and adjust settings based on the observed performance.

4. Appendix

4.1 Glossary of Terms

Here is a glossary of key terms related to trading, sorted alphabetically. This includes both fundamental trading terms and those used throughout the document.

A

- **Algorithmic Trading**: The use of automated computer programs to execute trades based on predefined conditions, minimizing human intervention and increasing efficiency.

- **Asset Pip Value**: The value of a pip movement for a given asset. It varies depending on the market (e.g., 1 for Forex, stocks, indices, and metals; 10 for cryptocurrencies and commodities).

- **ATR Bands (ATR Plus & ATR Minus)**: Bands derived from the Average True Range (ATR) that help determine the acceptable range for trade entries. These bands act as volatility filters in strategy execution.

B

- **Backtesting**: The process of testing a trading strategy on historical data to evaluate its effectiveness before applying it in live trading.

- **Baseline ATR Bands**: Bands calculated from the Average True Range (ATR) that help determine how far the price has deviated from the baseline indicator.

- **Baseline Confirmation**: A method where the price must be above or below the baseline indicator to validate trade entries.

- **Broker**: A financial intermediary that facilitates buying and selling assets in financial markets. MetaTrader (MT4/MT5) is a common platform used for broker execution.

C

- **CAGR (Compound Annual Growth Rate)**: A metric that measures the average annual return of an investment over a specified period.

- **Compounding (Compounded Trading)**: A technique where profits from previous trades are reinvested, increasing the position size over time as the account balance grows.

- **Custom Trading Session**: A user-defined trading session in TradingView where the algorithm only executes trades during specific hours set by the user.

D

- **Debug Labels**: A feature in the algorithm that displays the exact message that would be sent to PineConnector at each entry point, allowing users to verify the correctness of trade execution before real trading.

- **Drawdown (Max Drawdown)**: The peak-to-trough decline in account equity during a specified period, often used to measure risk.

E

- **Entry Condition**: The set of rules that must be met before the algorithm executes a trade.

- **Equity Growth**: The increase in account balance over time as a result of executed trades.

- **Exit Condition**: The predefined rule that determines when a trade should be closed. It can be based on a stop loss, take profit, trailing stop, or an exit indicator.

F

- **Fill Orders**: The process of executing trades in backtests according to the conditions specified in the algorithm, simulating real-market order execution.

- **Fixed Risk per Trade**: A risk management setting where the algorithm risks a fixed percentage of the account balance on each trade.

- **Fixed Lot Size**: A risk-setting method where each trade opens with a predefined lot size, regardless of account balance.

I

- **Indicator-Based Exit**: A trade exit strategy based on an indicator rather than a static stop loss or take profit level.

- **In-Sample Testing**: The process of optimizing a strategy using a specific portion of historical data to fine-tune parameters before testing its robustness on out-of-sample data.

L

- **Leverage**: A tool that allows traders to control larger positions with a smaller amount of capital. Higher leverage increases both potential gains and risks.

- **Liquidity**: The ease with which an asset can be bought or sold in the market without significantly impacting its price.

M

- **Margin Call**: A broker notification requiring a trader to deposit additional funds due to insufficient margin to maintain open positions.

- **Market Conditions Filter**: A rule in the algorithm that prevents trades in unfavourable market conditions (e.g., low volatility, excessive spread, etc.).

- **MetaTrader Symbol Mapping**: A feature that allows users to modify the asset symbol in TradingView to match the broker's symbol format in MetaTrader.

O

- **Open-Ended Alert**: A TradingView alert setting that ensures the alert remains active indefinitely until manually cancelled by the user.

- **Out-of-Sample Testing (OOS)**: The process of testing a strategy on historical data that was not used during its development, ensuring the model's robustness in unseen market conditions.

- **Overfitting**: A situation where a strategy is overly optimized for historical data but performs poorly in live trading due to excessive curve-fitting.

P

- **Partial Profit Percentage**: The percentage of a position that is closed at the first take profit level when using multiple take profits.

- **Performance Summary**: A section in the TradingView Strategy Tester that provides detailed statistics about the algorithm's performance, including annualized return, Sharpe ratio, and maximum consecutive wins/losses.

- **PineConnector**: A third-party tool that enables automated execution of TradingView signals in MetaTrader 4 (MT4) and MetaTrader 5 (MT5).

- **Pyramiding**: A trading strategy that allows for the gradual increase of position size by adding trades in the same direction as the trend.

- **Profit Split Strategy**: A strategy that involves closing part of the position at an initial profit target while letting the remaining portion run with a trailing stop loss.

R

- **Real-Time Alerts**: Notifications generated by TradingView that alert traders about new trade signals based on algorithmic conditions.

- **Risk-to-Reward Ratio (R:R)**: A metric that compares the potential profit of a trade to its potential loss.

- **Risk-Free Trade**: A trade where the stop loss is moved to breakeven, ensuring no capital is lost if the market reverses.

S

- **Scalping Strategy**: A high-frequency trading strategy that aims to capture small price movements over short timeframes.

- **Sharpe Ratio**: A measure of risk-adjusted return, calculated by dividing the strategy's excess return by its standard deviation.

- **Signal Confirmation**: The process of requiring additional technical signals (such as volume or secondary indicators) before executing a trade.

- **Slippage Filter**: A setting in PineConnector that ensures trades are only executed if slippage remains within a predefined threshold.

- **Stop Limit Order**: A trade execution order that converts into a limit order once a specific price is reached.

- **Symbol Mapping**: A feature in PineConnector that automatically converts TradingView symbols to match those used by the broker, ensuring correct trade execution.

T

- **Take Profit Strategy**: A method of exiting trades at predefined levels to secure profits.

- **Trailing Stop Activation**: The process of enabling a trailing stop loss that moves dynamically as the price advances in the trade's favor.

- **Trading Journal**: A record-keeping tool used to track and analyze past trades to improve strategy performance.

- **Trading Volume**: The total number of contracts or shares traded in a given market over a specified period.

- **Trading Window**: The period in which an algorithm is allowed to execute trades, often based on defined market sessions.

U

- **Unrealized Gains/Losses**: The profit or loss of open positions that have not yet been closed.

- **UTC Offset**: The adjustment required to convert a local trading session time into Coordinated Universal Time (UTC) for TradingView settings.

V

- **Volatility Filter**: A setting that prevents trades from being executed if market volatility is too low or too high, based on predefined conditions.

- **Volume Analysis**: A method of assessing trade opportunities based on the strength of buying and selling activity.

W

- **Webhooks**: A TradingView feature that allows trade alerts to be sent directly to third-party automation services like PineConnector.

- **Win Streak (Winning Streak)**: The maximum number of consecutive profitable trades recorded in backtesting.

- **Win Rate (Success Rate)**: The percentage of trades that result in a profit over a given period.

4.2 Practical Examples and Configurations

In this section, we will present a **full practical example** of how to configure the trading algorithm using multiple indicators, risk management settings, and automation through PineConnector.

Strategy Overview

This strategy integrates multiple indicators for entry, confirmation, and exit, along with risk management settings based on the **ATR** (Average True Range) and a **Two Take Profits (2 TPS)** exit strategy.

Indicator Setup:

- **Main Indicator (C1 - Trigger):** [QQE MT4] → This indicator serves as the primary trigger for trade entries.

- **Secondary Indicator (C2 - Confirmation):** [Detrended Price Oscillator] → Acts as a filter to enhance trade signal accuracy.

- **Volume Indicator (Confirmation):** [WAE] → Confirms that trade entries align with high market participation.

- **Exit Indicator:** [Aroon] → Used to close positions early when specific market conditions are met.

- **Baseline Indicator (Trigger, Confirmation & Exit):** [T3 MA] → Defines trend direction, validates entries, and can also act as an exit signal.

Risk Management Configuration:

- **Position Sizing:** Based on **ATR**, allowing dynamic Stop Loss and Take Profit adjustments based on market volatility.

- **ATR Multiplier for Stop Loss: 2.0x ATR** → Ensures the Stop Loss adapts to market volatility.

- **ATR Multiplier for Take Profit: 2.5x ATR** → Defines the first profit target, balancing risk and reward.

- **ATR Multiplier for Trailing Stop Loss: 2.0x ATR** → The trailing stop follows price movements, locking in profits while maintaining the same risk structure as the initial Stop Loss.

- **Two Take Profits (2 TPS) Strategy:**

  o **First Take Profit (TP1):** Closes **50% of the position** at **2.5x ATR** (defined via the **Partial Profits Percentage** input set at **0.5**).

  o **Second Take Profit (TP2) / Trailing Stop Loss:** The remaining position stays open with a **Trailing Stop Loss**, allowing the trade to continue capturing profits while protecting gains.

  o **Exit Rule:** If the trailing stop is hit or the Exit Indicator signals a reversal, the trade is closed.

Algorithm Setup in TradingView

Below are some images showing the exact configuration of the algorithm in the Inputs menu.
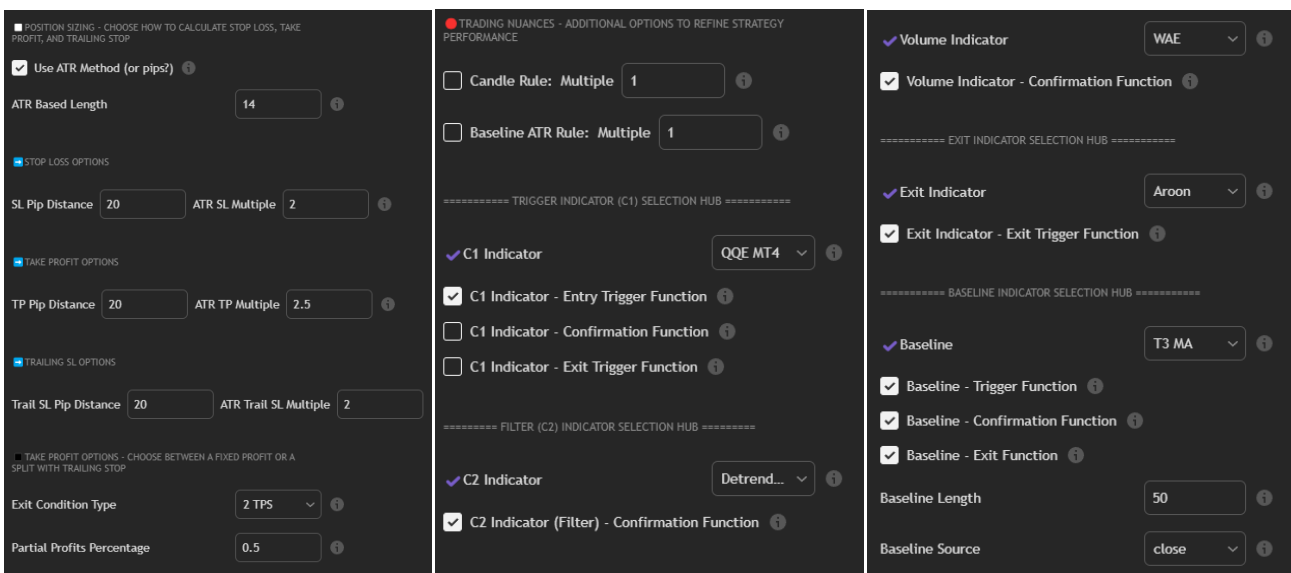
Example Trade Execution

Let's now look at an example of a trade executed using this strategy:

In this case, the **entry** is triggered when the **candlestick marked with the green circle** crosses and closes below the **T3 MA Baseline**. This occurs because the **baseline indicator (T3 MA)** has been configured as a **trigger**, meaning that whenever price crosses and closes below this moving average, a **short trade** is initiated—**provided that all other confirmation indicators align**.

Here's a breakdown of how each indicator validates the trade:

1. **Baseline as a Trigger:** The price **crosses and closes below the baseline (T3 MA)**, generating a **short signal** based on the user-defined settings.

2. **Main Confirmation Indicator (C1 - QQE MT4):** The **QQE MT4 indicator** confirms the short entry because it is in a **downtrend**, supporting the trade direction.

3. **Secondary Confirmation Indicator (C2 - DPO):** The **Detrended Price Oscillator (DPO)** is positioned **below the zero level**, further validating the **bearish market structure** and confirming the trade.

4. **Volume Confirmation (WAE - Volume):** The **Waddah Attar Explosion (WAE)** indicator displays a **red bar above the yellow threshold**, confirming that sellers are in control and that the market has strong selling momentum.

5. **Risk Management – Stop Loss & Take Profit Placement:** The trade follows the **Two Take Profits (2 TPS) strategy**, where:

   o **50% of the position is closed at the first Take Profit (TP1)**, marked as **"TP / SL 1"**.

   o **The remaining 50% of the position remains open with a Trailing Stop Loss**, dynamically adjusting as price moves.

6. **Exit Indicator (Aroon Indicator - Used as Exit Confirmation):** The **position is fully closed at the point labelled "Exit Short 2"**. This occurs because, as shown by the **red-circled area**, the **Aroon Indicator crosses**, signalling a **trend reversal** and confirming the need to exit the trade.

PineConnector Execution Message

This is the exact message that PineConnector would send to the broker when this trade was identified as a valid entry by the algorithm:
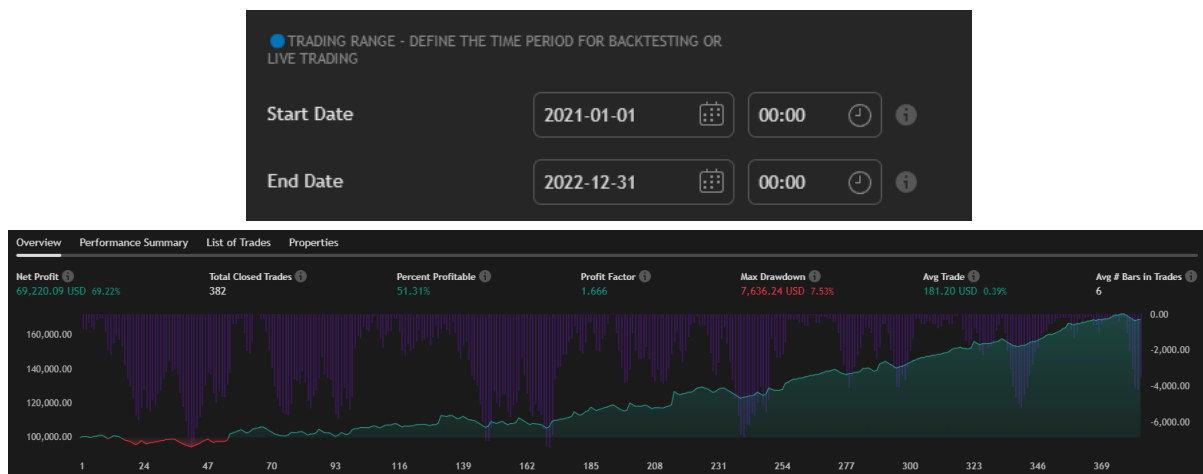
Backtest Results & Performance Analysis

We will now evaluate the backtest performance over two periods:

1. In-Sample Data (2021-2022)

- This dataset is used for training and optimizing the strategy.

- The goal is to fine-tune parameters and maximize profitability within known market conditions.

The **backtest results for the EUR/USD pair** over the **2-year period from 2021 to 2022** demonstrate the effectiveness of the strategy under the given settings. Below is a breakdown of the key performance metrics:

- **Net Profit: +69.22%** over the two-year period.

- **Total Trades Executed: 382 trades**, corresponding to **191 valid signals** (since each trade signal generates **two separate positions** due to the **2 Take Profits (2 TPS) strategy**).

- **Win Rate: 51.31%**, meaning that just over half of the valid signals resulted in profitable trades.

- **Profit Factor: 1.666**, indicating that for every $1 lost, the strategy generated $1.666 in profit—suggesting a solid risk-reward ratio.

- **Maximum Drawdown: 7.53%**, demonstrating a relatively controlled level of risk exposure throughout the period.

- **Average Profit per Trade: 0.39% per position.**

**Understanding the Trade Count and 2 TPS Impact**

Since the strategy **uses the Two Take Profits (2 TPS) setting**, each valid signal results in **two separate positions** being opened, each with **half the original risk**. This ensures that the overall statistical integrity of the strategy remains unchanged.

For instance:

- A total of **191 valid trade signals** were detected.

- Because each trade splits into **two separate orders** (one closing at TP1 and the other managed with a trailing stop loss), the final trade count **appears as 382 trades** in the strategy tester.

- The risk remains balanced because each of these two trades carries **half the originally intended position size**, ensuring that the total risk per signal remains consistent.

2. Out-Of-Sample Data (2023-2024)

- This dataset is used to validate the strategy on unseen market conditions, testing its robustness.

- The goal is to ensure the strategy generalizes well and does not suffer from overfitting.
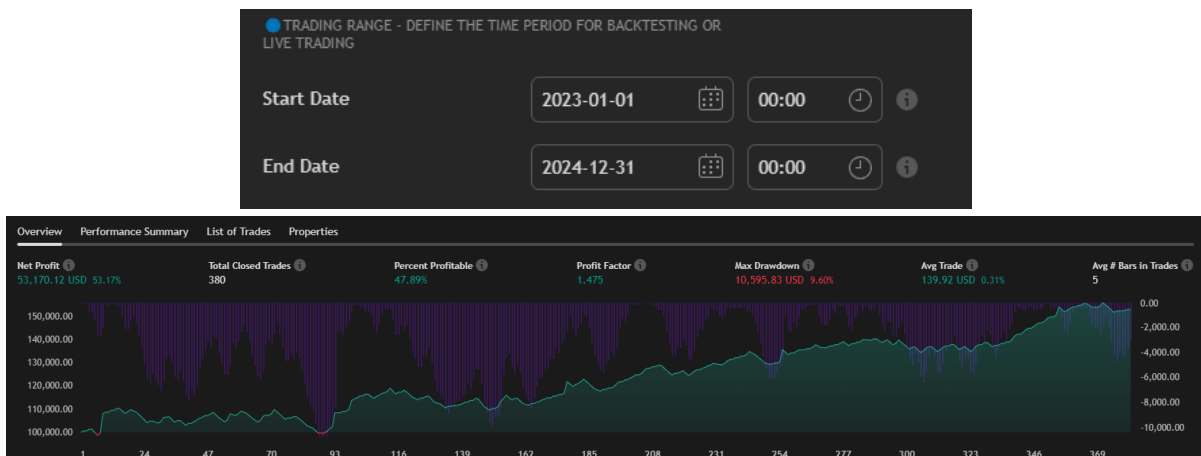
The **out-of-sample backtest results** for the **EUR/USD pair** over the **2-year period from 2023 to 2024** show how the strategy performed in unseen market conditions. Below is the breakdown of the key performance metrics:

- **Net Profit: +53.17%** over the two-year period.

- **Total Trades Executed: 380 trades**, corresponding to **190 valid signals** (each signal generated **two separate positions** due to the **2 Take Profits (2 TPS) strategy**).

- **Win Rate: 47.89%**, slightly lower than the in-sample results, suggesting different market dynamics.

- **Profit Factor: 1.475**, meaning that for every $1 lost, the strategy generated $1.475 in profit—still a positive expectancy, though slightly reduced from the in-sample period.

- **Maximum Drawdown: 9.60%**, slightly higher than the previous period, indicating an increase in risk exposure.

- **Average Profit per Trade: 0.31% per position.**

Key Observations & Takeaways

By comparing the **in-sample (2021-2022) and out-of-sample (2023-2024) results**, we can derive valuable insights:

✅ **Consistent Profitability:** Despite slightly lower performance in the out-of-sample test, the strategy still generated a **strong net profit** and maintained a **positive profit factor**, proving its ability to adapt to changing market conditions.

✅ **Win Rate Variation:** The **win rate dropped from 51.31% to 47.89%**, indicating that the market structure in the second period may have been more volatile or had different trends. However, the strategy remained profitable, showing its robustness.

✅ **Drawdown Management:** The **maximum drawdown increased from 7.53% to 9.60%**, which suggests that while the strategy performed well, the risk exposure was slightly higher in the out-of-sample period. Traders may consider adjusting risk parameters (e.g., lowering ATR multipliers) based on market conditions.

✅ **Profit Factor Remains Strong:** The **profit factor of 1.475** in the out-of-sample test confirms that the strategy **still maintained an edge**, even if slightly weaker than before. This is a key sign that the system is not overfitted and continues to function in different environments.

The overall results confirm that the strategy is **reliable, adaptable, and capable of generating long-term profits**. While market conditions evolved between the two testing periods, the **risk management settings and trade execution methodology** ensured consistent performance, making this a **viable trading approach for various market conditions**.

This is just one example of how we can use the **Indicators Testing Bot** or any of my other algorithms to **develop trading strategies, analyze performance, and extract meaningful results**. By following this structured approach, traders can **validate their strategies before deciding whether to automate them**.

Beyond this specific use case, traders can take their analysis even further:

✅ **Compare Performance Across Different Assets:**

- Instead of testing on a single asset like EUR/USD, the same strategy could be applied to **other forex pairs, indices, commodities, or stocks** to assess its robustness across different markets.

✅ **Export Trade Data for Advanced Analysis:**

- All executed trades can be **downloaded in CSV format**, allowing users to **build a more sophisticated Trading Journal in Excel**—as previously demonstrated in an earlier section.

✅ **Construct a Multi-Asset Portfolio:**

- Instead of trading a single asset, traders can **combine multiple assets into a portfolio** and analyze overall profitability, risk, and diversification effects when applying the same strategy.

✅ **Endless Optimization Possibilities:**

- Whether refining **risk management settings, position sizing, or indicator parameters**, the flexibility of this tool **opens up countless possibilities** for strategy improvement and customization.

The true power of this tool lies in its ability to **provide data-driven insights** that allow traders to **refine, optimize, and automate strategies based on tested and proven performance metrics**.

4.3 Useful Links and Resources

In addition to the previously mentioned links, here are some more useful resources to enhance your understanding and trading experience:

BabyPips – Free Forex Trading Course: https://www.babypips.com/learn/forex - A beginner-friendly guide covering all aspects of Forex trading, from basics to advanced strategies.

Economic Calendar (Forex Factory): https://www.forexfactory.com/calendar - Keep track of high-impact economic events that could affect markets.

Investopedia – Trading Basics: https://www.investopedia.com/trading-4427765 – A comprehensive resource for understanding basic trading concepts and strategies.

MetaTrader 5 Documentation: https://www.metatrader5.com/en/terminal/help – Official documentation for MT5, a widely used trading platform that can be integrated with many trading strategies.

Risk Management Techniques for Traders: https://www.babypips.com/learn/forex/risk-management – A detailed guide on managing risk while trading.

Trading Psychology & Discipline – Mark Douglas (Free PDF & Lectures): https://www.academia.edu/36209064/Mark_Douglas_Trading_in_the_Zone - Learn how emotions impact trading and how to develop a disciplined, systematic approach.

TradingView Educational Resources: https://www.tradingview.com/educators/ – A hub for various tutorials and educational material to help traders master TradingView tools and charts.

These resources offer valuable insights into trading and strategy optimization, helping you make more informed decisions.

5. Conclusion

Thank you for taking the time to explore the full capabilities and functionalities of our algorithmic trading strategies. We hope this guide has provided you with a deeper understanding of how to effectively use and optimize the strategy settings to align with your trading objectives. Whether you are backtesting strategies, automating trades, or refining your risk management approach, this manual serves as a comprehensive resource to enhance your trading experience.

Our mission is to provide traders with powerful tools that enable better decision-making, reduce manual workload, and ultimately improve trading performance. By leveraging the flexibility and automation features of our algorithms, you can focus on strategy development and execution with confidence.

Access to Our Premium Tools

If you're interested in expanding your trading capabilities further, you can explore our premium tools:

✅ **Indicators Testing Bot Premium** – Full access to the most advanced version of our testing bot, allowing you to backtest and refine multiple indicators: https://www.algotradepro.com/indicators-testing-bot-access

✅ **Indicators Testing Bot 15** – Test up to 15 indicators in your strategy for optimized decision-making: https://www.algotradepro.com/indicators-testing-bot-15

✅ **Indicators Testing Bot 30** – Expanded version for those who require more extensive testing capabilities: https://www.algotradepro.com/indicators-testing-bot-30

✅ **ATP Portfolio** – Gain insights into our curated portfolio, tracking high-potential trades and investments: https://www.algotradepro.com/atp-portfolio-access

✅ **Trading Journal** – A dedicated journal for tracking, analyzing, and refining your trades over time: https://www.algotradepro.com/trading-journal

You can acquire these tools through our official website: https://www.algotradepro.com/

If you have any questions about their features or how they can benefit your trading, feel free to

Continuous Updates & Feedback

This manual is continuously updated to reflect improvements, new features, and the latest advancements in trading automation. If you have any feedback, suggestions, or if you notice any errors, please don't hesitate to let us know. We highly value your input and are committed to refining this resource to ensure it remains as accurate and useful as possible.

📩 **For feedback and suggestions, email us at:** info@algotradepro.com

Get in Touch

If you have any questions, require assistance, or would like to provide feedback, we are here to help.

📧 **Email:** info@algotradepro.com

🌐 **Website:** https://www.algotradepro.com/

📺 **YouTube:** https://www.youtube.com/@algotradepro

💬 **Discord:** https://discord.gg/Wg5AsWx4

We value your trust and commitment to using our trading strategies. Wishing you continued success and profitable trading! 🚀 📈