



**SEASONALITY INSTITUTIONAL**

**-ADD-ON-**

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## BRIEF DESCRIPTION SEASONALITY PACKAGE

### ***WARNING!***

Dear customers, before you start working with the Seasonality workspace and indicators, we kindly ask you to study these instructions in detail before modifying any settings.

The Seasonality Add-On is an advanced tool that contains many settings and parameters. Incorrect settings made out of “curiosity” can lead to undesired behavior.

### ***IMPORTANT!***

You can carry out any changes you wish in the indicator settings, but we expressly recommend that you only touch the parameters with which you are familiar.

The seasonality is calculated based on the chart history available in your AgenaTrader. In order to receive an informative calculation, we recommend having data for at least 10 seasons available for the respective instrument under observation. On an End-of-Day basis, this means 10 years of chart history. If the seasonality is calculated based on a lower volume of data, the interpretative ability is considerably reduced and distorted patterns may arise.

When using the Seasonality Package, it is absolutely essential that you have sufficient data available.

Wishing you much success in trading with the Seasonality Add-On  
Your AgenaTrader support team



# INSTRUCTIONS PACKAGE INSTALLATION

I. After purchasing, you receive the following file by email:

- SeasonalityInstitutionalPackage.atpack: this file is the actual package including all components contained within.

**CAUTION!** If you use Internet Explorer or Microsoft Edge, the .atpack file is automatically renamed to a zip file by the browser. After downloading, therefore, you have to rename the SeasonalityInstitutionalPackage.zip to SeasonalityInstitutionalPackage.atpack!

II. Save the .atpack file on your hard drive.

III. You now have to enter the license for the package in AgenaTrader. To do so, click on the question mark symbol, select About -> Enter activation key, navigate to "SeasonalityInstitutionalPackage" and enter your activation key, which you received by email. Click on "Activate". When you see the notification that your license has been successfully activated, close this window.

IV. Open Tools -> Packages -> Import package, read the subsequent backup message and, if you have already carried out a backup, click on OK. In the next window, navigate to the storage location of the SeasonalityInstitutionalPackage.atpack file, click on it and select "Open". Confirm the prompt to restart AgenaTrader with "OK".

V. After restarting, the first step is to establish a connection to the data feed.

VI. As soon as you have established a connection to your data feed, select Main -> Workspace -> Seasonality, in order to load the Seasonality workspace. Once all charts are completely loaded, the SeasonalityInstitutionalPackage is fully operational.



## 1. SEASONALITY INSTITUTIONAL INDICATOR

This indicator is the key component of the Seasonality analysis, which calculates the seasonality using the entire history available in the chart. With the SeasonalityStandard indicator, you can have the seasonality calculated in all End-of-Day timeframes (e.g. daily, weekly or monthly chart) for the time period of one year in each respective timeframe. Therefore, one year counts as one season.

In addition, the SeasonalityInstitutionalPackage indicator also makes it possible to display intraday seasonalities. The following intraday timeframes are available:

- 1 minute (season = 1 hour or 1 day; can be adjusted in the settings)
- 2 minutes (season = 1 day)
- 3 minutes (season = 1 day)
- 4 minutes (season = 1 day)
- 5 minutes (season = 1 day)
- 6 minutes (season = 1 day)
- 10 minutes (season = 1 day)
- 12 minutes (season = 1 day)
- 15 minutes (season = 1 day)
- 20 minutes (season = 1 day)
- 30 minutes (season = 1 day)
- 1 hour (season = 1 day or 1 week; can be adjusted in the settings)

The following parameters are available with SeasonalityInstitutional:

- **PARAMETERS:**
  - **Calculation Option:** determines which data is used for the performance calculation, and therefore which data is used to calculate the seasonality patterns.
    - **CloseToClose:** measures the performance from the close of the previous period to the close of the current period
    - **IntraCandle:** measures the performance from the open of a bar to its close
    - **BetweenCandles:** measures the performance from the close of the previous bar to the open of the current bar
  - **CurrentTimeStart:**
    - **True:** the seasonality calculation starts exactly one season ago from the current date (for value for one season, refer to table above).
    - **False:** the seasonality calculation starts on the 1<sup>st</sup> January of the current year, if EoD charts are taken into account. This setting has no effect on intraday seasonalities.

- **Limit Lower / Limit Upper:**
  - Here you can set the limit values that are used for recognizing Long/ShortRuns. The logic of the SeasonalRuns will be explained in the next point "Output Mode" – "LongRuns / ShortRuns".
  
- **Output Mode:** determines which data series should be displayed in the indicator panel
  - **CumulativePercentages:** this is the normal display of the seasonality pattern that is calculated based on the available history. It is worth pointing out again that we recommend a history of at least 2500 price candles for the interpretation of the seasonality pattern. The seasonality pattern starts at 0 and reports the cumulative performance from that point onwards that can be expected on average based on the last x seasons.
  
  - **Percentages:** this value reflects the probability with which one can anticipate an increase in the respective bar. The values fluctuate between 0 and 100%. An extreme value of 100% means that the respective bar has increased in each observed year; 0% means that the value has fallen each year (-> increased in 0% of the cases). No statement is issued here as to how high this increase is; it is simply the probability with which an increase can be expected at the time of this candle with regards to seasonality.
  
  - **LongRuns:** with a SeasonalRun, this is a cluster with especially high seasonal probability of an increase/drop during at least 5 candles. By default, a long run occurs if at least 5 bars have a percentage value of over 70 – i.e. a probability of 70% and higher that an increase will occur during these candles. **IMPORTANT!** One bar at a time may still be located below 70 if the directly following bar is over 70 once more – this is still equivalent to a LongRun. You can configure the value of 70 under "Limit Upper".
  
  - **ShortRuns:** the logic is exactly the opposite of the LongRun. Thus a ShortRun occurs if at least 5 bars show a percentage value of less than 30; the exception that one bar at a time may be higher than 30 if the next one is back under 30 again also applies here. You can configure the value of 30 under "Limit Lower".
  
  - **MixedRuns:** there are situations in which the percentage value of consecutive bars fluctuates strongly, whereby long and short runs can occur at the same time, since the exception rule of the seasonal runs states that one bar at a time may be located above/below the limit if the following bar fulfils the requirement once more. In order to identify these situations and draw attention to the possible instability or sideways phase in the market, the candles in which a long and a short run occur simultaneously are marked with a yellow background color by default.
  
- **Seasonperiod for 1 hour:**

- Here you can set, for the 1-hour chart, whether 1 season is equivalent to 1 day or whether 1 season = 1 week.
- **Seasonperiod for 1 minute:**
  - Here you can set, for the 1-minute chart, whether 1 season is equivalent to 1 hour or whether 1 season = 1 day.
- **VISUAL:**
  - **Prediction Margin:**
    - **True:** shifts the bars in the chart further to the left so that the future projection of the seasonality is more easily visible.
- **VISUAL PARAMETERS:**
  - **Down-color / Up-color / Mix-color:**
    - Here you can determine the background color in the chart for ShortRuns (Down-color), LongRuns (Up-color) and MixedRuns (Mix-color).
  - **Future background color:**
    - This allows you to define the background color for the future projection in the indicator panel.
  - **Show future background:**
    - **True:** the projection in the future in the indicator panel is given a background color.
  - **Show future border line:**
    - **True:** a vertical line in the color of the "Future Background Color" is displayed in the indicator panel, serving to illustrate the point from which the future projection begins (which, in addition, also has a light blue background).
  - **Show lines:**
    - **True:** shows the border lines in the indicator panel – only has an effect when "Output Mode" = "Percentages" is selected.
  - **Show seasonal run:**
    - **True:** in the chart, the SeasonalRuns that are detected are given the background color set under "Down-color / Up-color / Mix-color".

## 2. SEASONALITY PREDICTION INSTITUTIONAL INDICATOR

The SeasonalityPredictionInstitutional is based on the calculation of the SeasonalityInstitutional indicator. Instead of displaying the seasonality in a separate indicator panel, here, the predicted price development based on the seasonality is displayed directly in the chart. This means that you can see at a glance where the price will move based on statistical seasonality. Here, too, it is also important that you ensure that you have enough history in the chart, in order for the calculation of the seasonal pattern to be statistically significant and provide meaningful information.

The following parameters are available with the SeasonalityPredictionInstitutional:

- **PARAMETERS:**
  - **Seasonperiod for 1 hour:**
    - Here you can set, for the 1-hour chart, whether 1 season is equivalent to 1 day or whether 1 season = 1 week.
  - **Seasonperiod for 1 minute:**
    - Here you can set, for the 1-minute chart, whether 1 season is equivalent to 1 hour or whether 1 season = 1 day.
  - **Seasons Lookback:**
    - Here you can set how many seasons should be used to calculate the seasonal patterns. By default, "0" is set here, which means that the entire available history of a chart is used for the calculation. If, for example, you set this value to 5, only the last 5 seasons are used to calculate the seasonal patterns, even if more history is available.
- **VISUAL:**
  - **Prediction Margin:**
    - **True:** shifts the bars in the chart further to the left so that the future projection of the seasonality is more easily visible.
- **VISUAL PARAMETERS:**
  - **Color 1 / Color 2:**
    - Define the colors for the color gradient ("Use Gradient" = "True") -> a gradient from Color 1 to Color 2 is displayed.
  - **Use Gradient:**
    - **True:** the future projection line is displayed not in one color, but with a color gradient.
    - **False:** the future projection line is displayed in one color with the "Color 1".



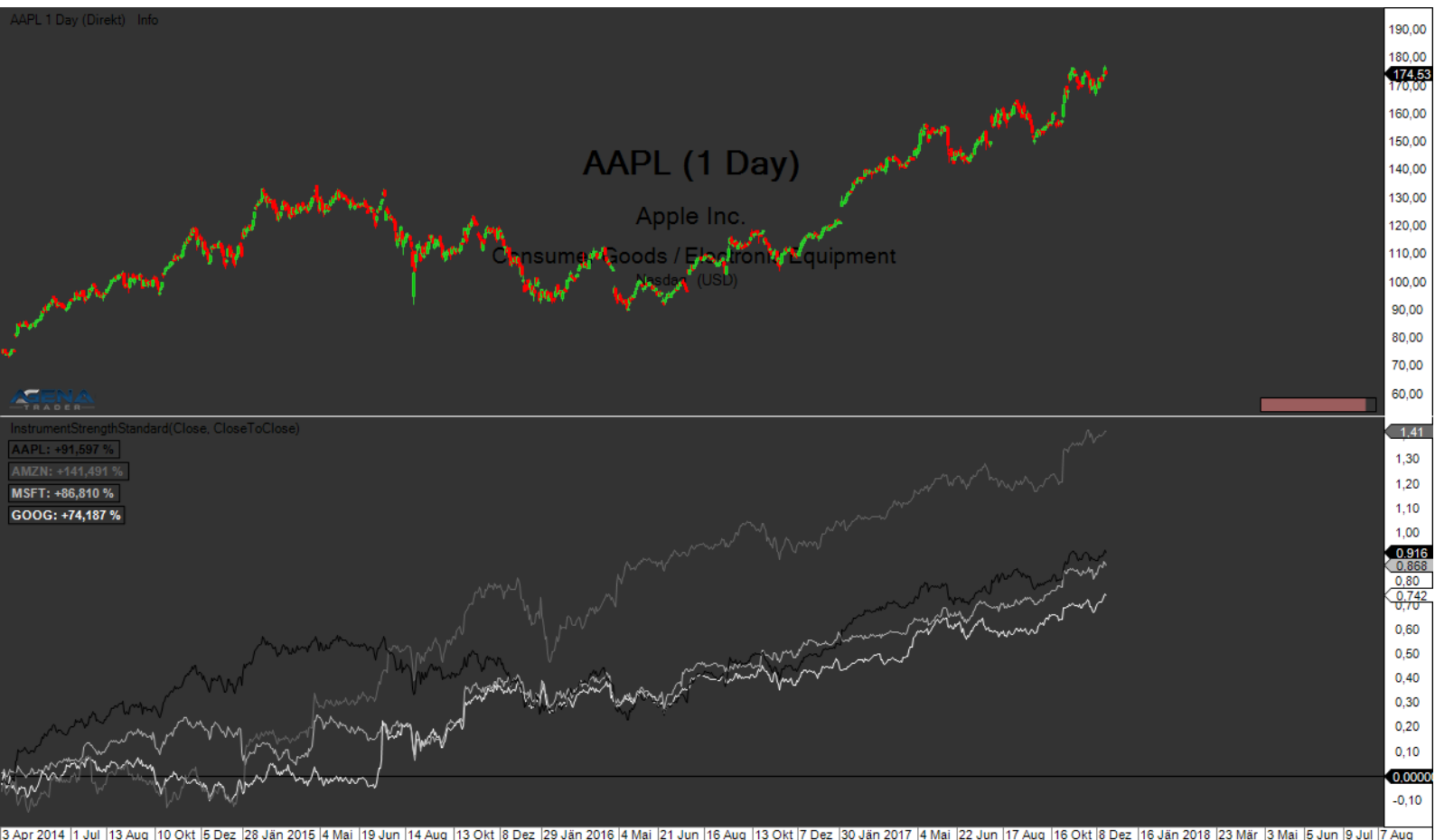
### 3. INSTRUMENTSTRENGTH INSTITUTIONAL INDICATOR

With this indicator, you can very effectively compare the most diverse markets with each other. For each instrument that you add via the parameter settings, the performance is calculated. All instruments start with a value of 0, meaning that over the course of time, you can analyze precisely how differently the instruments have developed. There are no restrictions with regards to asset classes; you can compare any and all instruments with each other. In addition, a text display in the indicator window also shows what percentage of performance the respective symbol has generated throughout the entire loaded history.

For displaying the instruments, the amount of history used is always as much as is available for all selected instruments. The instrument with the shortest available history, therefore, determines the number of bars used for the calculation. Instruments for which more history would be available are similarly only observed from the point in time at which history is available for all instruments, in order to make it possible to set all values to 0 at this point and enable a comparison.

The following parameters are available with the SeasonalityPredictionInstitutional:

- **PARAMETERS:**
  - **Calculation Option:** defines which data is used for the performance calculation and therefore for the calculation of the seasonality pattern.
    - **CloseToClose:** measures the performance from the close of the previous period to the close of the current period
    - **IntraCandle:** measures the performance from the open of a bar to its close
    - **BetweenCandles:** measures the performance from the close of the previous bar to the open of the current bar
- **VISUAL:**
  - **Lines:**
    - Define the line color of each instrument displayed.
- **INPUT INSTRUMENTS:**
  - **Instrument 1-30:**
    - You can enter up to 30 instruments to be compared with each other. You can enter the symbol abbreviation directly into the row, or use the little button at the end of each row (appears when you click in the row) to open the InstrumentEscort and select the desired symbol there.



#### 4. INSTRUMENT DAY ANALYZER INDICATOR

This tool provides an extremely effective way to determine which is the best trading day of the week for the current instrument. Each day of the week is divided into the DayChange (DC) session and the Overnight (ON) session, and the average performance of the respective session throughout the entire history is calculated.

Each session starts with a value of 0; for the Monday DayChange session, the performance from the open to the close is then calculated and added to the most recent status of the Monday DayChange line. The course of the Monday DC line, therefore, shows the performance that one would have achieved if one had bought shares every Monday at open, and sold at close. Every further line should be interpreted analogously to this logic.

The InstrumentDayAnalyzer can only be used in the daily chart.

In the table to the left of the indicator, the results for each sessions are also displayed in graphic format. Each column represents an individual session (MO DC = Monday DayChange Session, MO ON = Monday Overnight Session, etc.)

In each column, you will find two values. The top value shows the average movement that can be expected on a Monday during the DayChange session; the bottom value shows the calculated probability of this movement.

To give an example: the AAPL MO DC session shows the values 0.16% and 54.6%. This means that in the history of the last 2000 bars (depending on how many bars you have loaded in the chart), on a Monday from open to close, AAPL achieved a performance of 0.16% with a probability of 54.6%.



The following parameters are available for the InstrumentDayAnalyzer:

- **INPUT PARAMETERS:**
  - **Show DayChange:** show/Hdde the DayChange sessions
  - **Show larger legend:** "True" uses
  - **Show Overnight:** show/hide the Overnight sessions

## 5. HOLD N DAYS INDICATOR

This indicator calculates the performance that can be expected in the next x days based on the seasonality. You can use the indicator settings to freely select how many days in the future should be calculated.

If a positive performance is expected, a green fan appears displaying the range of expected movement. For downward movements, the fan is red.

Next to the fans, you will see two values; the first value is the expected performance over the next x days; the bottom number shows the probability with which this performance will occur in the last x days.

In addition, these two values are also displayed in the two indicator windows that are loaded when you insert the HoldNDays indicator into your chart.

The top line indicator displays the expected performance; the bottom graph shows the probability of this performance.

As already mentioned, the values are calculated based on the seasonality. If you select 30 days as the calculation basis, the software calculates 30 days in the future from the current day's candle. Depending on the performance achieved over the last years in this timeframe, the calculated values are then outputted.

When using this indicator, it is very important that you ensure you have sufficient history in your chart in order to carry out a meaningful analysis.



The following parameters are available for the HoldNDays indicator:

- **INPUT PARAMETERS:**

- **Days:** here, enter the number of days in the future for which the performance should be calculated. You need to make and adjust this setting in the indicator HoldNDays as well as in the HnDProbability, so that the values in the indicator panels use the same calculation method.

Note: the indicator HnDProbability controls the display of the second indicator panel in which the probability values are outputted. This indicator is automatically inserted into the chart when you insert HoldNDays. But it only becomes controllable after you close the indicator window and then reopen it – then you will see the HnDProbability indicator in the list of indicators in your chart. Currently, this workflow cannot be implemented in any other way, but it will be improved and simplified with a future update to the package.

- **Show Probability:** in principle, as soon as the HnDProbability indicator is displayed in the list, you are able to delete it from the list again, and from this point in time you can control its display using these parameters. When you select "True", the second panel with the probability display appears; when you select "False", you do not see the second indicator panel.

