Cyclic Smoothed RSI with period highlighter

> This is an advanced **TradingView "Invite-Only"** indicator which requires activation based on a valid subscription from whentotrade.com or WaveCycleTrader.

> **This indicator is not designed for use as an automated trading strategy**
> This is an improved technical indicator using the dominant cycle to provide its advanced features. The basic applications of technical analysis for using oscillators apply. The script is intended for use in discretionary trading.

The cyclic smoothed RSI MTF indicator is an enhancement of the Relative Strength Indicator "RSI", adding

- using the current dominant cycle length as input for the indicator to ensure more accurate change in trends,
- additional smoothing without introducing lag and maintaining clear sharp turns for signal generation,
- adaptive upper and lower bands to avoid whipsaw trades and adapt the indicator to trending/cyclic conditions,
- using higher time-frame csRSI oversold/overbought conditions to automatically highlight time windows with green/red backgrounds on the indicator panel for signal filtering and/or alert rules.

This indicator is an advanced version of the public available open-source cyclic smoothed RSI indicator. It provides fully automatic time frame highlighting by using a cyclically smoothed RSI from a higher time frame to indicate time frames with high probability signals. These high probability windows are highlighted when the indicator from the higher time frame is in dynamic overbought or oversold territory.

Overview and Examples

The following chart illustrates how it works and compares it against the basic RSI indicator. The csRSI indicator shows automatic highlighted periods with highlighted red and green time zones. These areas are based on another cyclic smoothed RSI indicator from a higher time-frame. The periods are marked red when the higher time-frame csRSI is above the upper bands and marked green when below the lower dynamic bands.

These colored periods in the indicator panel indicate the time to look for signals from the csRSI indicator. The derived signals are marked on the price chart. While the standard RSI would give too much whipsaw trades as indicated by the questions marks, however. the csRSI MTF version is able to filter the high probability signals while skipping false signals with a clear, objective procedure.

S&P500 EMini Futures

csRSI 2H chart / 1D filter example signals

Cyclic Smoothed RSI Indicator with Mulit-Timeframe filtering

Chart 1: S&P E-Mini Futures 2h chart with daily higher time-frame filtering period for the csRSI, showing the standard RSI in the lower panel for signal comparison, signals from the csRSI are marked on the price chart

Chart Link: https://www.tradingview.com/x/5HBRAtUa/

Bitcoin BTC/USD

csRSI 2H chart / 1D filter example signals

csRSI Bitcoin BTC/USD signals

Chart 2: Bitcoin BTC/USD 2h chart with daily higher time-frame filtering period for the csRSI, signals marked

Chart Link: https://www.tradingview.com/x/h407gPQm/

EUR/USD Forex

csRSI 20min chart / 2h filter example signals

csRSI_EURUSD_20M_2H_v.png

Chart 3: Bitcoin BTC/USD 20min chart with 2H higher time-frame filtering period for the csRSI, signals marked

Chart Link: https://www.tradingview.com/x/zx66TIpJ/

Info:
All three examples are setup with the basic standard settings and no additional parameter adjustments. The placed arrows on the price/indicator panel and the projection price areas have been added manually to visualize the signals for an discretionary trading approach. They are derived based on standard technical indicator oscillator readings (signal turn above/below bands). Due to the nature of the indicator (ultra-smooth, sharp curves, dynamic bands), these signals are easy to spot, and will help to avoid whipsaw trades in volatile conditions.

Features

The following chart is a close-up of the EUR/USD example above and shows the forex pair on a 20-minute time frame for the continuous period May 23, 2021 to May 27, 2021. The normal RSI is also plotted for comparison. Since the normal RSI would give too many unclear signals marked with "?", the csRSI first filters the high probability time frames according to the integrated multi time frame filter from the 2h chart. In addition, the smooth indicator line allows very precise detection of turns and divergences using the adaptive bands. In the 4-day period shown, there were 2 clear buy and sell signals. The normal RSI would not have been able to filter the wrong signals from the right ones.

csRSI_EURUSD_20M_2H_ZoomFeatures.png

Chart: EUR/USD 20 min chart with csRSI signals and key features

Link: https://www.tradingview.com/x/ekN6ULpq/

Multi-Time-Frame filtering

The indicator provides cycles-within-cycles filtering by integrating a higher level time-frame cyclic smoothed RSI indicator. This embedded higher time-frame allows to highlight periods in time where the cyclic RSI indicator reached extreme conditions on the higher resolution. Allowing us to provide multi-time-frame analysis bundled in one single indicator. The included MTF feature allows to individually select the required higher time frame for each indicator panel. The conditions are plotted on the indicator panel using colored backgrounds and can also be used the generate automatic alerts. It allows to indicate areas which much higher signal accuracy than using a single indicator plot alone.

Ultra-smooth indicator

Standard technical indicators introduce a lot of false signals due to their noisy signal line. To compensate for the noise, one would normally try to add smoothing. But this only results in adding more delay to the standard indicator, which makes it almost useless. Finally, standard indicators require a length adjustment to derive more reliable signals. However, one never knows how to set the right length for a standard indicator. All these three problems described are solved by our used ultra-smooth algorithm. Providing an ultra-smooth indicator curve which allows to derive more valid signals than on noisy signal lines. And reducing the risk of having too much whipsaw trades based on "false" signals from flattering standard indicator plots. While almost adding no lag, the smoothness of our csRSI does not introduce signal delays.

Dynamic adaptive bands

Technical oscillators provide static threshold offset to indicate oversold and overbought areas. Traditional interpretation and usage of the RSI dictates that values of 70 or above suggest that a security is becoming overbought and may be primed for a trend reversal. While values of 30 should suggest the symbol is becoming oversold and is primed for the next upswing. However, these static values do not take into account trending or cyclic market conditions. In up-trending markets, the value might be above the static value of 70 for a long time and there will be several indicator

reversals above that threshold without any real trend reversal. To account for trending or cyclic market conditions, we are using and adaptive, dynamic version to calculate the upper and lower bands. E.g. the indicators aligns the bands based on up trends while increasing the upper level and does the same in down trending markets. Allowing to spot turns above or below the bands while using dynamic market conditions to adapt the overbought and oversold areas.

Cycle-tuned sharp signals

Another important aspect is having clear and sharp turns on the signal line. Otherwise you will never know in real-time if a turn on the indicator might correlate to a turn in the price. A risk by adding smoothness is to loose the required sharpness. Our version maintains the sharpness of signal turns while in parallel adding the zero-lag smoothness. In addition to this zero-lag algorithm, you can adjust the length according to the dominant cycle in the underlying security or asset. When tuning the indicator length parameter according to the dominant cycle length, the signal turns are becoming even more accurate and sharp as the indicator takes real the length of the main market vibration into account. Which highlights turns on the real market cycle while filtering out noise. Standard indicators are most used without the knowledge of the "correct" length settings. Our additional cycle tools can guide the analyst in detecting the dominant cycle length.

Settings & Parameter

The **Inputs** section allows you to select the time frame for the indicator signals. We recommend keeping the indicator time-frame according to your chart time frame ("Same as chart"). The cycle length allows to improve the signals by entering the dominant cycle length of the analyzed dateset. This parameter is optional if the current dominant cycle is not known. In that case, leave it at 20. The dominant cycle length can even improve the indicator signal generation. The examples above have not been optimized by using the dominant cycle length and just used the standard setting of 20.

The **MTF CYCLE FILTER** area is used to set the time-frame used as filter to plot the colored indicator background in red and green areas when the higher time-frame indicator is above (red) or below (green) the dynamic bands. These indicate the period of time with high probability to look for signals on the main indicator line.

csRSI_Parameter_Settings_N.jpg	csRSI_Parameter_Settings2.jpg

Chart: csRSI MTF Indicator Settings Panel

The MTF **Resolution** parameter input is important for generating the highlighted red/green areas on the indicator panel. You must enter a higher time-frame than your indicator time-frame in order to get the reliable highlighting. We recommend the following combinations of trading time-frame and filter time-frame resolutions:

Trading time-frame (chart)	**MTF indicator resolution for area highlighting**

20 min	2 h
2 h	1 day
1 day	1 week

Table: Possible combinations for chart/indicator and MTF filter resolution

You can enter the current dominant cycle length on the chosen higher time-frame resolution to even further optimize the indicator accuracy in the field "MTF CYCLE FILTER - Cycle Length".

The **Style** sections allows to active/de-active individual plots. The standard setting disables the higher time-frame csRSI indicator which is only used to indicate the colored areas. If required, you can also enable the MTF indicator and adaptive bands to be plotted in the same indicator panel. The values shown in the style section also indicate which values are available for individual alert generation.

Automatic Signals & Alerts

It is possible to create your own automatic signals with the csRSI MTF indicator using the TradingView alarm function. Click on the three dots "More" beside the indicator name label and select "**Add Alert on csRSI ...**" from the context menu.

Add cyclic smoothed RSI indicator alert

Chart: Configure csRSI alert to get notified once a symbol gets into the time zones of interest (red/green)

For example, if you want to receive an alert when the high probability periods (red/green highlighted areas) have been reached for a monitored symbol without manually watching the indicator panel, you can set up a custom alert. The csRSI indicator provides the raw values necessary to set up your alarm conditions. Set the "CSRSI MTF" as the value for the "Out of Channel" condition and select the "HigBand MTF" and "LowBand MTF" indicator values as the upper and lower limit parameters in the alarm's dialog box. Once you have set up this alarm, you will not need to monitor your charts manually. The TradingView alarm will inform you as soon as an important time zone is reached. These are the situations when you would open the chart and watch for trigger signals on the indicator line. If you set up this alert as an email, you can even focus on other things and let the csRSI MTF highlighter condition alert you when you should pay attention to the trading chart.

csRSI_Alerts.jpg

Chart: Example csRSI alert setup

Usage & Trade Signals

Classic rules apply as with every technical oscillator. In addition use this indicator to identify the following conditions:

- Indicator turns above/below the adaptive upper and lower bands (expected trend reversals)
- Indicator crosses below upper band / crossed above lower band (start of trend reversal)
- Indicator crosses above upper band / crossed below lower band (trend continuation/confirmation)
- Divergence between price / indicator indicate strong signal confidence
- Hidden divergences between price/indicator indicate string signal confidence
- After strong price movements, wait for the second signal confirmed by a divergence
- Use the mentioned conditions in the highlighted red/green periods indicated by the MTF settings

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