



TradingClue

**BUILD SUCCESSFUL TRADING
STRATEGIES WITH THE
UNIDIVERGENCE INDICATOR
PACKAGE**

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Introduction

WHAT THIS IS ALL ABOUT

This Document is a reference for all available parameter settings for the UniDivergence indicator package. It also serves as a guide to develop, backtest and walkforward test your personal trading strategy.

Strategies based on UniDivergence assume that if some kind of divergence occurs, the probability of the reversal of an existing trend is high.

The UniDivergence package contains two parts:

- 1) The UniDivergence Strategy: This is a PineScript strategy that can be used for backtesting and parameter optimization.
- 2) The UniDivergence Study: A TradingView indicator that implements the same algorithms as the UniDivergence strategy but is able to create alerts with Buy-/Sell-signals.

LIMITATIONS

It must be clear, that the amount of historical data used for backtesting is limited – depending on your subscription plan and the timeframe you are using. When you're trading the 5 Minute chart, you do have 10.000 candles available for backtesting with a PRO account and only 5000 candles in the free account.

Longer timeframes do have more candles available – depending on the data-vendor.

In some cases there are different data-vendors for the same financial instrument - backtesting and live-trading results may differ.

Bid-ask-spreads, slippage and commissions are not taken into account during strategy development with UniDivergence. You need to keep this in mind!

There is no parameter optimizing feature available in TradingView that would be comparable to other algorithmic trading platforms like MetaTrader. The optimization process needs to be done by hand.

Strategy

OVERVIEW

The strategy is highly customizable regarding the entry- and exit-criteria and regarding the date-range that the strategy shall be applied to.

INPUT PARAMETERS

See below a screenshot of the input parameters dialog

Inputs Properties Style Source Code ×

Source

Function 1 (1:Momentum, 2:RSI)

Func1 Length **Entry**

Smoothing Length

Number Of Candles That Need To Diverge

Only Trade Into The Direction Of The Next Pivot Point

Trade Halfway To The PP

Profit Target **Exit**

Use Stop-Loss

Stop Loss Target

Only Backtest The Given Time Range

Year (Start)

Month (Start) **Time Range**

Day (Start)

Year (End)

Month (End)

Day (End)

Defaults

ENTRY PARAMETERS

Function 1

In the current version, UniDivergence can identify divergences between price and some oscillators. You can choose to use Momentum or RSI.

Func1 Length

Length of the Momentum or RSI indicator.

Smoothing Length

Price and the oscillator can be smoothed to reduce signal noise for a better identification of divergences. But remember: the bigger the smoothing factor is, the more indicator lag will be there.

Number of candles that need to diverge



Define the number of candles that price and oscillator need to go into different directions before a divergence signal occurs.

Only trade into the direction of the next pivot point

UniDivergence draws daily pivots onto the chart. By checking this option, only trades will be signaled that go into the direction of that daily pivot. This does only make sense for intra-day charts.

EXIT PARAMETERS

Trade halfway to the PP

This only works if the option “Only trade into the direction of the next pivot point” is checked. The profit target will be calculated as the difference between the current price and the pivot point – added to the current price.

Profit Target

You can use a fixed profit target (in ticks) as the exit criteria.

Use stop-loss

You can build your strategy with or without using stop-losses. Not using stop-losses usually leads to higher profits but also to higher draw-downs.

Stop Loss Target

If you decide to use stop-loss, you can put the desired value in here.

TIME RANGE PARAMETERS

Only backtest the given time range

You can configure that the whole set of historical data shall be used for backtesting, or that you will only test pre-defined time ranges (e.g. to do a walkforward-analysis)

The beginning/ end of that time can be set with the following parameters. The settings are self-explanatory.

Strategy development

INITIAL CONSIDERATIONS

Before you start with the development of your trading strategy you should define your trading goals, assumptions, restrictions and rules that fit to your personality and to the desired trading-style.

Questions you might ask yourself might be:

- How big is my initial capital?
 - o Depending on your capital and your willingness to take risks you can define your position size and the maximum drawdown you are willing to accept.
- Do I want to use stop-losses?
 - o If you want to trade without stop-losses, you should trade with very small position sizes to limit draw-down. There should be enough capital so you can just wait for a trade that runs against you to get into profit.
- On which timeframe do I want to trade?
 - o The timeframe can affect the absolute number of trades you are going to take. Usually you will see more signals on shorter timeframes.
- On which currency pair or other financial instrument are you going to trade?
 - o Be sure that the financial instrument of your choice is available with your broker.
 - o If you want to trade multiple instruments, you should run through the strategy development process for each of them.

You can configure the initial capital with properties dialog of the UniDivergence strategy:

The screenshot shows the 'Properties' tab of a dialog box for the UniDivergence strategy. The 'Initial Capital' is set to 10000. 'Base Currency' is set to 'Default'. The 'Pyramiding' checkbox is checked. 'Allow Up To' is set to 1 orders. 'Order Size' is set to 100 Contracts. 'Recalculate After Order filled' and 'Recalculate On Every Tick' are unchecked. 'Verify Price For Limit Orders' is set to 0 ticks. At the bottom, there are buttons for 'Defaults', 'OK', and 'Cancel'.

You should write down your goals, assumptions, restrictions and rules and use this as your guideline during strategy development.

Here is an example guideline that I used for the development of a strategy:

My initial capital is \$10,000.

My maximum drawdown should be \$500 (that's 5% of my initial capital ... I know this probably should be lower).

I trade Gold (XAUUSD) on the 5 Minute chart.

I want to use stop-losses.

BACKTESTING, WALK FORWARD ANALYSIS AND PARAMETER OPTIMIZATION

After applying the strategy to the chart and timeframe of your choice, in this case XAUUSD 5 Minutes, you should configure the initial capital in the properties dialog as seen above and be sure to check that you have the strategy configured to use stop-losses.

To find good values for stop-loss and take-profit you will need to do some calculations based on your position size (order size, number of contracts). With the OANDA XAUUSD datafeed, a profit target of 700 (measured in ticks) and a position size of 100 contracts, you would end up with a profit of \$70 with every successful trade. You should double-check if your calculations were accurate by observing the list of trades in the strategy tester:

Trade #	Type	Signal	Date/Time	Price	Contracts	Profit
1	Entry Short	short entry	2016-11-07 00:00	1305.114	100	\$70.00
	Exit Short	short exit	2016-11-07 00:00	1304.414		
2	Entry Long	long entry	2016-11-07 05:10	1292.009	100	\$70.00
	Exit Long	long exit	2016-11-07 05:15	1292.709		
3	Entry Long	long entry	2016-11-07 07:25	1288.999	100	\$70.00
	Exit Long	long exit	2016-11-07 07:40	1289.699		

Before you start the process of optimizing your parameters, you should limit the time range that you are using for testing the strategy. A popular approach is to test the strategy on a larger time range, optimize the parameters and then test the strategy with the optimized parameters on a shorter time range that starts right after the end of the range you used for parameter optimization. If you would have used a 1H timeframe, there would be multiple years of historical data available, so you could optimize e.g. on January, February and March of 2016, then see what happens if you test the strategy with the optimized parameters on April 2016. If the results are Ok, you could move forward and optimize on February/March/ April and test with May and so on. By doing so, you will develop a very robust trading strategy and you will avoid curve-fitting.

Problem with the 5M chart is that you do have only a few weeks of historical data available for testing, so you could optimize on week one and two, test with week three and then move everything forward by one week.

Currently there is no feature available on TradingView to do an automatically parameter optimization, so you will need to do this by hand. This can become a very time-consuming activity. You should start to just play around with the parameters to get an idea, which parameters are worth focusing on. I usually start with the profit target and the stop loss and after I do have values that I feel comfortable with, I focus the optimization on the smoothing length and the Momentum (or RSI) length.

Be aware that you don't need to click on the Ok button after you changed some parameters. You will see the effect immediately or right after you move the focus from one input field to the next. I usually switch to the overview section of the strategy tester while changing inputs in the parameters dialog:



I focus on net profit and max. drawdown but also keep an eye on the equity curve.

Study

OVERVIEW

While the strategy provides features for backtesting etc., the study (a.k.a. indicator) can be used to create alerts based on the optimized parameters. This is useful to create your personal signal service.

Instead of just having alerts with buy/ sell signals sent to your email inbox, you could also use other indicators or techniques to confirm signals. For example, if your financial instrument is currently in an uptrend but you do encounter several sell signals on the chart, you could draw a trendline and create an alert that fires if price breaks the trendline to the downside:



INPUT PARAMETERS

Because you can only use static text as message that will be sent out by an alert, it doesn't make sense to do profit target calculations – there is no way to include profit target/ stop loss values in the alert message. As a result, you only can configure parameters that do affect the entry condition:

Inputs	Style	Source Code	×
Source		close	▼
Function 1 (1:Momentum, 2:RSI)		1	▲▼
Func1 Length		14	▲▼
Smoothing Length		7	▲▼
Number Of Candles That Need To Diverge		10	▲▼
Only Trade Into The Direction Of The Next Pivot Point		<input type="checkbox"/>	
Defaults ▼		<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Just put in the optimized parameters you discovered during the previous step and you will see buy and sell signals on the chart:



ALERTS

To setup alerts that are based on your strategy, do a right-click on the chart and select “Add Alert” (or simply press Alt-A).

You should setup one alert for buy-signals and one for sell signals per chart, the following screenshot shows a possible configuration for a buy signal. Be sure to configure the frequency, expiration time and the alert message to fit your needs.

Create Alert on XAUUSD, 5 ×

Condition ▼

▼

Frequency ▼

Expiration Time  

Alert Actions Show Popup
 Play Sound
 Send E-mail
 Send SMS

Message



Final thoughts & additional information

TradingView is a great tool to develop and play around with algorithmic trading strategies. The UniDivergence indicator package is a great tool to develop strategies that are based on identifying divergences to predict trend reversals. But you need to develop and test the strategies on your own.

If you do have any questions, ideas or comments on my approach, feel free to contact me anytime.

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