

Advanced Triangle Builder Indicator

User's manual

1 General idea

To find triangle formations on the chart and show points of possible breakout. Additionally, to offer stop loss and take profit levels according to the current pattern formation



Figure 1 – How the triangle pattern works

2 Pattern recognition

The main idea is to find bunch of highs/lows and connect them with a line, using some deviation buffer and regression methods. The more vertexes are included the better



Figure 2 – Creating triangle based on many vertexes touched

Usually, there are several choices to create a triangle. Algorithm has special ranking system to choose the most efficient formation on the chart.

Builder recognizes patterns for up to last 3 figures. It gives to trader opportunity to see what was before, how the pattern changed for last N bars and where it is moving now.



Figure 3 – Two patterns (current and previous), which show trend direction changing

If user wants to recognize pattern somewhere in the history, he can use special “manual” mode:



3 Signal generation and putting SL and TP levels

When price breakouts the pattern and steadily moves further, the signal Buy or Sell is generated accordingly to price movement. If price breaks the bottom edge, then the signal Sell will be generated, and vice versa breaking out of top edge will produce Buy signal. After signal generated, TP and SL levels are calculated. Stop loss level is calculated automatically, based on current triangle height, take profit is set accordingly to Risk:Reward ratio

Commented [RF1]: Probably, need some options to manage this



Figure 4 – Example of sell signal generation with putting SL and TP levels

4 EA parameters

EA has only 2 parameters for tuning recognition algorithm:

- Look back period. It shows, how many bars back may be used (max) during the recognition. The bigger this value, the longer figures will be
- Trend backstep. It is interval between price extremums (see the same parameter in ZigZag indicator). Increasing this value makes extremum points rarer. The more long term trading you like, the bigger this parameter should be

123	Look back period	300
123	Trend backstep	20

Figure 5 – Main parameters to tune the recognition process

For managing SL and TP levels EA provides next parameters:

- SL/TP feature enabled. If you don't like using SL and TP, you're free to disable this feature
- Risk:Reward (1:X). Configure your Risk:Reward proportion with this parameter
- Draw stop loss/ take profit bars. If this parameter is enabled, all bars inside trading zone (until TP or SL reached or new signal generated) are painted with green/red color
- Draw bar mode. This parameter specifies the mode of painting bars

ab	**** Stop loss/Take profit building ****	
123	Enabled	true
123	Risk:Reward (1:X)	3
123	Draw stop loss/ take profit bars	true
123	Draw mode	Candle from open to close

Figure 6 – Properties for managing SL/TP

Next portion of parameters are intended for tuning drawing. There may be 5 figures on the chart maximum:

- Current figure. It is built using last bar of the chart.
- Previous figure. It is built right before current figure.
- Pre-previous figure. Positioned before previous one.
- Forming pattern. Rare case, when new pattern formation is obvious, but it has too few vertexes to be sure, it is a formation
- Manual pattern. Is used for manual recognition mode

All of them have the same parameters to set: enabled/disabled, color of the body/edges, edge thickness etc.

ab	*** Current pattern drawing ***	
✓	Enabled	true
✓	Fill body	true
🎨	Body color	LightSkyBlue
🎨	Edge color	ComflowerBlue
123	Edge width	2
ab	*** Previous pattern drawing ***	
✓	Enabled	true
✓	Fill body	false
🎨	Body color	143,188,143
🎨	Edge color	143,188,143
123	Edge width	1
ab	*** Pre-previous pattern drawing ***	
✓	Enabled	true
✓	Fill body	false
🎨	Body color	Cornsilk
🎨	Edge color	BurlyWood
123	Edge width	1
ab	*** Forming pattern drawing ***	
✓	Enabled	true
✓	Fill body	false
🎨	Body color	WhiteSmoke
🎨	Edge color	Gray
123	Edge width	1
ab	*** Manual pattern drawing ***	
✓	Fill body	true
🎨	Body color	PaleTurquoise
🎨	Edge color	DarkTurquoise
123	Edge width	2
ab	*** Other drawing parameters ***	
✓	Align starts of triangle edges	false