Trading with fxRulesEngine LITE

Welcome to fxRulesEngine LITE. We hope and believe fxRulesEngine will change the way you trade to become a more successful and profitable trader. Quite simply, fxRulesEngine automates your trading plans through a series of Rules and Instructions. You can use fxRulesEngine to forward test your trading ideas or to backtest different trading scenarios or to trade live as a traditional Expert Advisor.

 As an example, the image below shows a rule (R:) that fires when the market price moves upward through 1.06940 price level. Then an instruction (I:) will open buying order with the stop loss and take profit price levels as well as the lot size calculated automatically by fxRulesEngine.

```
R:01,PRICE:1.06940,UP
I:01,OpenOrder,Buy
```

Firstly, a very important warning about Forex trading...

WARNING: *Forex trading is a **very risky financial activity**, and you will quite likely lose money. Do not trade live until you have fully tested your proposed trading plans, and you are fully aware of the risks. Only trade with **money that you can afford to lose***.

So be very cautious about Forex trading and **thoroughly test any plans** before trading live. And, even then, trade with very small amounts on a live account.

Capital Preservation (Risk Management)

This should be your most important concern given the high numbers of Forex traders who lose money. fxRulesEngine has a number of settings and procedures to assist with your capital preservation. In fxRulesEngine Property window you can adjust your risk settings.

HIGH PERSONAL RISKS of Forex Trading	Accept
NO LIABILITY of fxRulesEngine for losses	Accept
--	
==== ACCOUNT PROTECTION ====	
Enforce Risk Management on all orders	Yes
Maximum Risk % of available balance	1.0
Close fxRulesEngine after exceeding Loss Setting	Yes
Loss Limit % of Opening Balance	10.0
Limit to one Open Order at time	Yes
Avoid repeating losing trades (24 hrs)	Yes
--	
==== ATR Calculations ====	

fxRulesEngine automatically ensures that the loss of any one trade is limited to 1% of your available margin. This level can be adjusted in Properties as *Maximum Risk% of available balance*.

You can also set a limit on total losses of your trading plan. The default setting is 10% of the opening balance. You can change this setting with *Loss Limit % of Opening Balance* in Properties. This prevents fxRulesEngine draining your account with a trading plan gone wrong. Many trading robots suffer this problem.

Two other helpful settings are (1) limiting trading to one open order at a time and (2) preventing a losing buy or sell order being re-opened within 24 hours. So, with these settings left as factory defaults, let us see how your trading plan is managed.

Imagine you have a $1000 balance to start. Each order will be limited to $10 risk. In many cases you would leave fxRulesEngine to size the order automatically to limit to the 1% risk. fxRulesEngine would open one order at a time only and not repeat losing orders within 24 hours. And, finally, if a trading plan should go wrong (and it happens to the best traders), fxRulesEngine would close all orders and stop processing, when losses exceeded $100 (10% of opening balance). Of course the Forex market is fast moving, and inevitably there will a delay between fxRulesEngine and the market. So be prepared for some slippage.

Applying Trailing Stops

```
//trail stop loss using ATR every 60 minutes
R:03,REPEAT
I:01,COMMAND:TrailStops
```

Traders commonly move (trail) stop loss settings to reduce potential losses or lock in early profits when prices move in their favor. So if prices then move against their trades, losses are minimized. fxRulesEngine supports this strategy, if wanted

fxRulesEngine will move the stop loss setting to break-even (no loss) when first able. Then fxRulesEngine will adjust stop loss as the market price moves favorably but will not increase the stop loss from that point. Non-profitable trades will be untouched. The example above will review trailing stop opportunities every 60 minutes.

Plan Analysis with Excel Exporting

```
R:00,ONCE
I:01,PlanName,TEXT:Price breakthrough SMA
```

fxRulesEngine automatically exports the results of your trading plan to a text file (csv). The TEXT: value in the example will be placed as a column value into a CSV file that you can be imported into MS Excel. The CSV file is created in fxrules folder. See example in the image attached.

Name	Date modified	Type	Size
FXR-EURUSD-180000-export.csv	19/11/2016 7:47 AM	Microsoft Excel C...	5 KB
FXR-EURUSD-180000-log.txt	19/11/2016 7:47 AM	Text Document	116 KB

Typical Trading Plan

```
//===== Trading Plan Template LITE Version ====
R:00,ONCE
I:01,PlanName,TEXT:Price above/below SMA


R:01,ABOVESMA:20&240&1
I:01,OpenOrder,Buy


R:02,BELOWSMA:20&240&1
I:01,OpenOrder,Sell


R:03,REPEAT//repeats every 60 mins
I:01,COMMAND:TrailStops


//===== Trading Plan Template LITE Version ====
```

Here is a simple, but complete, trading plan that combines trailing stops and CSV file exporting with rules to open buy and sell orders (R:01 and R:02). The first rule (R:00) simply places your name into the CSV export file as a column value. This helps to link the exported file to your plan. This rule runs once.

Then there are two rules (R:01 and R:02) to initiate buy and sell orders. And, finally, rule R:03 implements a trailing stop review every 60 minutes. Be careful trailing stops can improve profitably but not always.

Common Trading Strategies

Unfortunately one strategy will not consistently make money in all market conditions for any currency pair. Be skeptical of claims to the contrary. A resourceful trader needs to have a toolkit of trading plans that work in different conditions and that he or she continually tests and revises. Some plans suit different price volatilities in trending or ranging markets.

Let us have a look at some common strategies and how they are represented as Rules and Instructions in fxRulesEngine LITE.

1. Market price crossing predefined price levels (often from support and resistance analyses);
2. Market price above or below SMA (Simple Moving Average) calculation;
3. Market price breaking through an SMA calculation (acting as support and resistance levels);
4. Crossover of different SMA calculations;
5. Price reversals from oscillator analysis like RSI.

Price Level Strategy

Imagine you have identified a critical price level for a currency pair. This came from a Forex guru or from identifying an important resistance level. Here is the fxRulesEngine trading rule.

```
R:01,PRICE:1.06940,UP,ONCE
I:01,OpenOrder,Buy,SL:80,TP:150
```

Now you, as the trader, decided to specify the Stop Loss (SL) and Take Profit (TP) in pips. fxRulesEngine calculates the prices and the lot size based on your risk management settings. ONCE stops the rule triggering many times.

Now you would like to adjust the stop loss should the trade move in your favor. So you add another rule.

```
R:01,PRICE:1.06940,UP,ONCE
I:01,OpenOrder,Buy,SL:80,TP:150


R:02,PRICE:1.06990
I:01,ModifyOrder,ID:0101,SL:40,TP:100
```

The second rule (R:02) sets a new price level with (I:01) modifying the stop loss and take profit settings (securing a small profit). *ID* refers the rule number and instruction number of the order. Remember no actual order exists, when you create a trading plan.

These rules and instructions are effective ways of trading price movements around identified **support and resistance levels** for breakouts and reversals.

Prices Above/Below SMAs

Please note that many price above or below SMA calculations are **trend following strategies** that often perform badly in ranging or flat markets. Some traders estimate that most currency pairs trend about 20% of the time only.

Traders often talk of slow and fast moving averages. Slow SMAs (Simple Moving Averages) such as SMA(50) or SMA(100) show longer-term trends of the currency pair. Whereas SMA(5) reflects

shorter-term movement. So if the market is above SMA(5) and SMA(50) then it may be moving consistently with shorter- and longer-term movements. In fxRulesEngine that would be:

```
R:01,ABOVESMA:5&240&1,ABOVESMA:50&240&1
I:01,OpenOrder,Buy
```

The first qualifier is true, if the market price is above SMA(5) in 4-hour (240 minutes) periods as of the previously closed period (shift 1). The second qualifier is true, if the price is above SMA(50) in 4 hour timeframe. So the rule (R:01) only triggers if both qualifiers are true and then (I:01) a buy order is opened. The order is sized automatically. AND the buying order will be created only if no other order is open.

```
R:01,ABOVESMA:5&240&1,ABOVESMA:50&240&1
I:01,CloseOrders,Sell
I:02,OpenOrder,Buy
```

In the second version the trading plan uses the rule trigger to close any selling orders as well as open a new buying order. Testing will help you decide when one method outperforms the other.

There are well-known strategies based on prices above or below SMAs. Let us look at *Three Little Pigs* and *Three Ducks Trading System*. Here are the buy rules configured in fxRulesEngine LITE.

Three Little Pigs

```
R:01,ABOVESMA:55&10080&1//weekly
  +R:01,ABOVESMA:21&1440&1//daily
  +R:01,ABOVESMA:34&240&0//4 hourly
I:01,OpenOrder,Buy
```

The rule to buy (R:01) consists of three ABOVESMAs. The + sign allows you to split the lines to improve legibility. This is multi-timeframe rule using weekly (10080 minutes), daily (1440 minutes), and four hourly (240 minutes) timeframes. The weekly and daily are based on closing prices for the previous period (shift 1) and the four-hourly is the closing price during the current period (shift 0). The sell rule would be opposite settings with BELOWSMA.

Three Ducks Trading System

```
R:01,ABOVESMA:60&240&1//4 hourly
   +R:01,ABOVESMA:60&60&1//hourly
   +R:01,ABOVESMA:60&5&0//5 minute
I:01,OpenOrder,Buy
```

The rule to buy (R:01) consists of three ABOVESMAs. The rule uses the same period SMA (60 periods) over three different timeframes (hour hourly, hourly, and 5 minutes). fxRulesEngine sizes the buy order, even though you can specify lot size, stop loss, and take profit settings. The selling rule uses BELOWSMA with the same settings.

Price Breakthrough SMA

Here we are interested in identifying the breakthrough of a closing price upward or downward through an SMA calculation. The SMA is being used as a support or resistance zone. Here is an example fxRulesEngine Rule for buying.

```
R:01,BELOWSMA:20&1440&2,ABOVESMA:20&1440&1
I:01,OpenOrder,Buy
```

When the price closes below SMA(20) two periods ago and then above SMA(20) the next period the Rule (R:01) will trigger and execute an instruction to buy (I:01).

So rule R:01 uses two qualifiers to trigger:
   ● Price below SMA(20) on a daily timeframe (1440 minutes) two periods ago (shift 2).
   ● Price above SMA(20) on a daily timeframe (1440 minutes) one period ago (shift 1).

The selling rule would have opposite settings.

Comparison of Fast and Slow SMAs

```
R:01,SMA1ABOVESMA2:5&240&1&20&240&1
I:01,OpenOrder,Buy
```

SMA1ABOVESMA2 is a rule qualifier that compares two SMA calculations. Each SMA has three settings: **period** (5 and 20 in this example); **timeframe** in minutes; and **shift**. The rule (R:01) compares two different period SMAs for the same past period. So the rule triggers an instruction (I:01) when the faster SMA is above the slower SMA.

SMA Crossover Strategies

Crossover strategies are some of the most popular ways of making buying and selling decisions. These strategies are based on initiating an order when a faster moving SMA (shorter period)

crosses above or below a slower one (longer period). Typically the strategies open a buying order when the fast SMA crosses upward and selling order when moving downward.

So, here is a crossover rule and buying instruction expressed in fxRulesEngine.

```
R:01,SMA1ABOVESMA2:20&240&2&10&240&2
        +R:01,SMA1ABOVESMA2:10&240&1&20&240&1
I:01,OpenOrder,Buy
```

The rule (R:01) has two qualifiers that compare SMA values. The first uses the period before last (shift 2) and is true if the SMA(20) was above SMA(10). The second uses the last period (shift 1) and checks for SMA(10) above SMA(20). That means SMA(10) crossed over SMA(20) indicating an upward trend in price. When this happens, R:01 fires and executes instruction I:01 to buy.

5/8 Daily Crossover (Forex Factory)

```
R:01,SMA1ABOVESMA2:8&1440&2&5&1440&2
        +R:01,SMA1ABOVESMA2:5&1440&1&8&1440&1
I:01,OpenOrder,Buy
```

Golden Cross (dailyfx.com and cmsfx.com)

```
// two suggestions: 50/200 or 20/50
R:01,SMA1ABOVESMA2:200&1440&2&50&1440&2
        +R:01,SMA1ABOVESMA2:50&1440&1&200&1440&1
I:01,OpenOrder,Buy
```

"Death Cross" is the opposite selling rule.

Crossover With Forced Closing

```
R:01,SMA1ABOVESMA2:160&60&2&50&60&2
        +R:01,SMA1ABOVESMA2:50&60&1&160&60&1
I:01,CloseOrders,Sell
I:02,OpenOrder,Buy
```

50/160 SMA crossover in a 60 minute timeframe

Using RSI Momentum Oscillator

Overbought & Oversold

```
R:01,RSIBELOW:30&14&240&1
I:01,OpenOrder,Buy
```

A popular trading strategy is to use a momentum oscillator like RSI (Relative Strength Index) to identify overbought and oversold situations in a currency pair. Popular settings are overbought when RSI is over 70 (and hence sell) and oversold when RSI is under 30 (and hence buy). The example above shows the oversold rule (R:01) in fxRulesEngine with RSI calculated on 14 periods on a 4-hourly timeframe. Calculation done on the close of the last period (shift 1).

Bullish and Bearish Momentum

```
R:01,RSIABOVE:50&14&240&1
I:01,OpenOrder,Buy
```

Some strategies use RSI with other indicators to confirm the direction of the momentum - bullish is over 50 and bearish is under 50. Again this example calculates RSI for 14 periods over 4-hourly timeframe.

Example SMA/RSI Trading Plan

```
R:01,ABOVESMA:20&240&1,RSIABOVE:50&5&240&1
I:01,OpenOrder,Buy

R:02,BELOWSMA:20&240&1,RSIBELOW:50&5&240&1
I:01,OpenOrder,Sell
```

The example plan uses a combination of pricing above or below SMA and RSI to indicate an upward or downward momentum. Simple testing over EURUSD for 2016 shows good profitability on **some** of the months. Stop loss settings were calculated on one hour ATR(14).