

## DR-Expert Advisor Synopsis

MT5

- to be written for MetaTrader 5

3 Trading Sessions to be defined (Start & End for New York - , Asian -, London Session)

i.e. NY Session 9:30 - 16:00

Asia Session 19:30 - 02:00

London Session 3:00 - 8:30

Within each Trading Session, there is a separate 'trade entry window'

i.e. NY trade entry: 10:30-12:30

Trading Strategy defines multiple price levels during first hour of trading session based on 5m candles.

- opening price
- high
- low
- highest 5m close
- lowest 5m close
- $(\text{highest close} + \text{lowest close})/2$

Price breaks out of defined level on 5m timeframe and then has to pull back to a defined level. Crossing certain levels after the breakout invalidates the trade setup (abort session).

We then look for a trade entry signal on 1 minute chart based on

- Moving Average
- RSI
- MACD
- TSV (Time Segmented Volume)
- Fractals

## 1. Define Time-Slots

### 1.1. Trading Sessions

- Want EA to work in three different time-windows (NY-session, Asia-session, London-session). Because different brokers are in different time-zones, best that user sets those session times manually.

#### 1.1.1. NY-Session

( ) Session Start Time (t.b. entered by user)

( ) Session End Time (t.b. entered by user)

- Session can be enabled/disabled

#### 1.1.2. Asia-Session

( ) Session Start Time (t.b. entered by user)

( ) Session End Time (t.b. entered by user)

- Session can be enabled/disabled

#### 1.1.3. London-Session

( ) Session Start Time (t.b. entered by user)

( ) Session End Time (t.b. entered by user)

- Session can be enabled/disabled

### 1.2. Trade Entry Window

- Within each Trading Session, there is a specified time-window in which we are looking for trade entry.

#### 1.2.1. NY-Trade Window

Trade Entry Start Time (always Session Start time + 60 min)

( ) Trade Entry End Time (t.b. entered by user)

#### 1.2.2. Asia-Trade Window

Trade Entry Start Time (always Session Start time + 60 min)

( ) Trade Entry End Time (t.b. entered by user)

#### 1.2.3. London-Trade Window

Trade Entry Start Time (always Session Start time + 60 min)

( ) Trade Entry End Time (t.b. entered by user)

Note, the trade entry window is the time in which the EA is looking for the trade entry conditions. Entered trades will be managed through TP, SL, and the option to Close at End of Session.

## 2. Define DR-Range

This is done during the first hours of the session (= Session Start Time + 60 min)  
based on 5m candles  
= first 12 candles during the Session define ...

- (a) Upper DR line (Highest price during first hour = highest wick)
- (b) Upper IDR line ((Highest 5m close during first hour = highest 5m body)
- (c) Lower DR line (lowest price during first hour = lowest wick)
- (d) lower IDR line (lowest 5m close during first hour = lowest 5m body)
- (e) IDR Midline (mid price between upper and lower IDR =  $(\text{Upper IDR} + \text{Lower IDR})/2$ )
- (f) Opening price (opening price of first candle of the session)



Upper DR line (grey)  
Upper IDR line (dashed)

IDR-Midline (red dashed)  
opening price (green)  
Lower IDR line (dashed)  
Lower DR line (grey)

### 3. Trade Entry conditions:

- to be tested within the Trade Entry Window (1.2.)
- Trade Entry conditions to be determined based on 5m candles

#### 3.1 Early Directional Bias

- price after 60 min = close of 12<sup>th</sup> 5m candle ("P60")
- IF (P60 > opening price) THEN 'Look for buy only'
- IF (P60 < opening price) THEN 'Look for sell only'
- condition can be enabled/disabled

#### 3.2 Directional Bias

- IF (5m price closes > Upper DR) THEN 'Look for buy only'
- IF (5m price closes < Lower DR) THEN 'Look for sell only'

#### 3.3. DR-Retest

- After 3.1 (if enabled) AND 3.2 confirm the same trade direction, price must come back into the DR-Zone
- on long confirmation, price goes below upper DR (wick is sufficient)
- on short confirmation, price goes above lower DR (wick is sufficient)
- condition can be enabled/disabled



P.S. green Zone is an example of the Trade Entry Window. After that time, we will no longer enter trades.

Green arrow: 3.1 confirming buy bias

Orange circle: 3.2 confirming buy bias

Red arrow: 3.3. DR-retest after buy bias

### 3.4. False Day (abort looking for trades)

- 3.3.1 Mid-Zone False Day
  - condition can be enabled/disabled
  - if entry price > midline
    - on buy confirmation: price must not close below midline
    - on sell confirmation: price must not close above entry price
  - if entry price < midline
    - on buy confirmation: price must not fall below entry price
    - on sell confirmation: price must not rise above midline
- 3.3.2 Hard False Day
  - on buy confirmation, price must not fall below lower DR
  - on sell confirmation, price must not rise above upper DR

IF these conditions are violated, we abort the trading session for the day and do not check for Entry Signal (4.).

#### 4. Entry Signal

Entry Signal is based on 1 minute timeframe (1 m chart/candles) that is all the following indicators must align for 1m timeframe, close of candle.

- If ALL conditions 4.1 - 4.5 are met, trade entry is initiated

##### 4.1 Moving Average

Type: Smoothed

Length: 21

- condition can be enabled/disabled

##### 4.2 RSI

Length: 150

Source: close

MA Type: Simple

MA length: 35

- condition can be enabled/disabled
- (in example: RSI = red line; RSI based MA = blue)

##### 4.3 MACD

Default settings.

Fast Length: 12

Slow Length: 12

Source: close

Signal smoothing: 9

- condition can be enabled/disabled

##### 4.4 TSV (Time Segmented Volume)

TSV Length: 13

TSV MA (Filter) Length: 7

- condition can be enabled/disabled

##### 4.5 Fractals

Period: 2

- condition can be enabled/disabled

## Trade Entry Condition Summary:

CONDITION	BUY	SELL
21 Smoothed Moving Average	price closes above	price closes below
RSI	RSI > RSI based MA	RSI < RSI based MA
MACD histogram (Lines)	green (> 0) (MACD > Signal Line)	red (< 0) (MACD < Signal Line)
TSV	> 0	< 0
Fractals	price closes above last top fractal	price closes below last bottom fractal

## Examples of Buy Entry (green) & Sell Entry (Red)



## 5. Stop Loss

Select between Fixed Stop or Swing Stop

The initial stop is also used for position size calculation

### 5.1 Fixed Stop

- User defined Stop distance in CCY

### 5.2 Swing Stop

- EA to look left for next pivot point that meets following conditions:
- Swing High = for x candles (or minutes) the price to right and left of Swing remained smaller than the swing high.
- Swing Low = for x candles (or minutes) the price to right and left of swing low remained higher than the swing low.
- This means 2 Variables to be established:
  - 'Stop Buffer Variable' (user can choose how many CCY above/below the swing point the actual stop loss will be placed)
  - 'Swing Variable' (determines how many candles to left and right are considered to determine a swing high/low)



Assume we go short on the very right red candle:

if Swing-Variable (X) is set to 1, then the stop would be set above candle A (at least one candle to right and one candle to left are smaller, so this would be considered a swing high)

if Swing-Variable is set to 2, 3, 4, up to 9 then B would be the swing high to place the stop.

if swing variable is set to 10, 11, ... 14, then C would be the swing high to place the stop.

if the swing-variable is set to 14 or higher, then D would be the swing high to place the stop.



## 6. Trade Management:

### 6.1 Trailing Stop

- This function trails the initial stop as defined under 5.
  - 'Trailing Step' Variable defines in which steps the stop is moved
    - Value between 0 and 1.0
    - 0 = continuous continuous trail, where every tick that price moves into profit, the stop is moved one tick as well)
    - 0.5 = stop moves in steps of 0,5R; that is once 0,5R profit is reached, the SL is moved from -1R to -0,5R
    - 1.0 = stop moves in steps of 1R; once 1R profit is reached, the SL is moved to break even; once 2R profit is reached, SL moves to 1R, etc.
  - function can be enabled/disabled

When trailing stop is enabled, the Take Profit Target (TP) remains active.

If user selects a TP of 2R, and a trailing stop of 1R, then losses will be reduced in case price turns before reaching 1R profitability, but profit will be taken at 2R.

If users want a 'pure' trailing function, user may simply set TP to a very high number (i.e. 999R). Then the trailing function will ultimately determine the max. profit (continues to go into profit until a pullback of >1R occurs).

### 6.2 Take Profit Target

- User selects between Fixed and Multiple-R profit Target
- 6.2.1 Fixed TP
  - t.b entered in CCY
- 6.2.2 Multiple-R TP
  - 'Multiple R' Variable to be entered by user
  - defines the profit target as multiples of R

### 6.3 Position Size (Risk)

- Mode to be selected between Fixed Lot size, Fixed Risk Amount, and Risk Percentage
  - 6.3.1 Fixed Lot Size t.b. entered by user
  - 6.3.2 Fixed Risk Amount
    - Lot size is calculated based on fixed amount of account currency, entry, & stop
  - 6.3.3. Risk%
    - Risk % (default 1%) variable entered by user.
    - EA calculates lot size based on entry, stop, and risking 'Risk%' of the account equity.

### 6.4 Close Trade at End of Trading Session

- option to be enabled/disabled
- If this option is enabled, trades to be closed 5min before end of session (as user defined in 1.a.)
- if this option is disabled, trades remain active until Take Profit or Stop Loss is hit.

### 6.5 Second Trade Option

- by default, only one trade allowed per trade entry window
- include option to allow for second Trade entry, only after first trade is closed
  - this option is valid per trade entry window
  - option can be enabled/disabled

### CCY entry

EA to be used on NAS, DOW, Oil, Forex, Crypto (BTC, ETC)

- Entries for Stops, price targets, etc. to be defined in CCY (not pips) to make entry easier across different instruments
- i.e.
  - Price for Gold 2035,50 So Fixes SL gets set as 2.00 (\$2.00)
  - Price for EUR/USD is 1,08525 Fixes SL gets entered as 0,00500 (50 pips)
  - Price for Oil is 74,465 Fixed SL gets entered as 0,30 (\$0,30)

### Timeframe

- Trade Entry conditions (see 2. & 3.) are determined on 5m timeframe, that is based on 5m candles
- Trade Entry signal & Stop Loss (4. & 5.) is determined on 1m timeframe, that is based on 1m candles
- I assume the the EA will run on 1m chart and conditions (2. & 3.) are to be programmed in a way that EA looks at 5m candles/intervals anyway

Magic Number etc. should be routine part of an EA.

These specifications may not be clear and/or complete. Programmer please consult with me for full understanding before start of programming (talk it through via Zoom conference)