

# 'Cash-is-King' Indicator

## Requirements Specifications for MT4

### Idea behind Indicator

Built for trading on a Cash Account, where liquidity is not a problem, SWAP fees are offensive, and the trader is uncomfortable with short-selling. That means positions may need to be held longer than minutes or hours. That also means it's optimized for non-margin trading, which, for most brokers, comes with very low fees. Traditional buy-low-sell-higher is the idea, and short-selling isn't even considered. The indicator should be usable with any Symbol one's broker allows and might mean several trades each day, depending on volatility and preferences set in parameters, especially bar period. Parameterization must be simple, easy for the lay investor to understand and implement. Real-time, the indicator must also be easy to monitor current status, know what signal the indicator is looking for next, and alert the user via tone with new signal or stage.

### Operation of Indicator


#### **Idle Stage: Awaiting Buy Signals** (colored light gray on chart)

- Notification: pop-up message, "Awaiting Buy Signal 1. Do NOT execute until Buy Signal 3!"

Status: No position held, monitoring bar openings for Buy Signal 1

- Write journal message upon opening Indicator session: "SESSION START: Cash-is-King Indicator enabled at [Date-Time Stamp] on [Symbol] in [N-period] chart. Connected to [server type, i.e., demo/live] server: [server name] with MT[version 4/5]." (If applied in Strategy Tester then add to journal, "(Strategy Tester: [its settings, i.e., dates, modeling mode, trading mode, initial deposit, etc.])")

Buy Signal 1: MACD (26-period EMA) gray line *moving up* crosses the purple signal line (12-period EMA)


-  Insert dark yellow arrow with "B1" to denote point on MACD chart where Buy Signal 1 triggered

#### **Evaluating Buy Signals Stage** (colored light purple on chart)


Status: Initiated by trigger of Buy Signal 1, now monitoring for Buy Signal 2

- Notification: tone alert (news.wav) and pop-up message, "Monitoring for Buy Signal 2. Do NOT execute until Buy Signal 3!"
- Write journal message with "Buy Signal 1 (B1) at [running time in minutes and seconds from session start]"


Buy Signal 2: Williams Alligator 'Lips' (5-bar SMMA) green line (overlying candle chart) *moving up crosses* the Williams Alligator 'Jaws' (13-bar SSMA) burnt orange line.

- Notification: tone alert (alert2.wav) and pop-up message, "Monitoring for Buy Signal 3. Be prepared to execute!"
-  Insert blue arrow with "B2" to denote point on candlestick chart where Buy Signal 2 triggered
- Write journal message with "Buy Signal 2 (B2) at [running time in minutes and seconds from session start]"

Stage Ends with (a or b) or connection error:

- a. Sell Signal 1 (see below) triggers before Buy Signal 3 triggers; returns chart to "Idle Stage: Awaiting Buy Signals"
  - Notification: tone alert (ok.wav) and pop-up message, "No go!" (and then Idle Stage notification)
  -  Insert red arrow with "S1" to denote point on MACD chart where Sell Signal 1 triggered
  - Write journal message with "Buy Eval. Stage Early Exit with Sell Signal 1 (S1) at [running time in minutes and seconds from session start]"
- b. Buy Signal 3

Buy Signal 3: Alligator 'Mouth Opening' spread  $\geq$  N% of maximum 13-week spread, where N% is a parameter the user can set (default 50%)

- Notification: tone alert (connect.wav) and pop-up message, "BUY NOW!"
-  Insert bright green arrow with "BUY!" to denote point on candlestick chart where Buy Signal 3 triggered
- Write journal message with "Buy Signal 3 (B3) and (faux robotic) Buy Execution of [N Shares] at [Buy Price] at [running time in minutes and seconds from session start] with 'Mouth Opening' spread of [N]%" where N% is the actual rather than user-set parameter threshold
  - Cash used to make purchase = Cash Basis this session (user-set in parameter) + [Net profit this session]\*[% of Running Total profit to reinvest] (user-set parameter where 0% = Fixed Lot, and 100% default is full reinvestment of net profits this session)


Actual Purchase: If this can be journal-logged then: "Actual Buy execution of [N Shares] at [Buy Price] at [running time in minutes and seconds from session start] with price-point difference of [Faux Robotic Buy Price – Actual Buy Price]" (*no other alert or arrow inserted*)

**Position Held Stage** (colored light green on chart)

Status: Initiated by trigger of Buy Signal 3, now monitoring for Sell Signal 1.


Sell Signal 1: MACD (26-period EMA) gray line *moving down crosses* the purple signal line (12-period EMA).

- Notification: tone alert (wait.wav) and pop-up message, "Monitoring for Sell Signal 2. Be prepared to execute Sell!"


-  Insert red arrow with “**S1**” to denote point on MACD chart where Sell Signal 1 triggered
- Write journal message with “Sell Signal 1 (S1) at [running time in minutes and seconds from session start]”

Stage Ends with (a, b or c) or connection error:

a. Manual 1-click MT4/5 sell execution


-  Insert red arrow with “**MS**” to denote point on candlestick chart when Manual Sale (1-click sell) executed
- Write journal message with “Position Sold manually of [N Shares] at [Buy Price] at [running time in minutes and seconds from session start] for \$[total difference] P/L.” where [total difference] = ([N Shares Sold] \* [Sell Price]) – ([Actual N Shares Bought] \* [Actual Buy Price])

b. Stop-loss at Buy Price less N Points, where N Points/Pips is a parameter the user can set (including “none” as SL option)

-  Insert red arrow with “**SL**” to denote point on candlestick chart when Stop-loss triggered
- Notification: tone alert (timeout.wav) and pop-up message, “Stop-loss Triggered of [N Shares] at [Buy Price] at [running time in minutes and seconds from session start] for \$[total difference]” (same calculation for [total difference])

c. Sell Signal 2

Sell Signal 2: Williams Alligator ‘Lips’ (5-bar SMMA) green line *moving down crosses* the Williams Alligator ‘Jaws’ (13-bar SSMA) burnt orange line; and IF “Profitable Trades Only” user parameter = Yes THEN price when Alligator signal triggers must also be > B3 (i.e., price at buy signal)

- Notification: tone alert (news.wav) and pop-up message, “SELL NOW!”
- Write journal message with “Sell Signal 2 (S2) and (faux robotic) Sell Executed at [running time in minutes and seconds from session start] for (faux robotic) profit of \$[computed total]” where [computed total] = ([N Shares Sold] \* [faux robotic Sell Price]) – ([Actual N Shares Bought] \* [faux robotic Buy Price])
  -  Insert red arrow with “**SELL!**” to denote point on candlestick chart where Sell Signal 2 triggered
- IF “Profitable Trades Only” parameter = Yes and AlligatorS2 signal triggers when price < buy price THEN deliver pop-up message to user and write same to journal: “Sell Signal 2 (S2) seen but sell price below buy price (and Stop-loss not triggered). Position still held. Continuing to monitor Sell Signals for profitable trade or Stop-loss trigger.”

Actual Sale: If this can be journal-logged then: “Actual Sell execution of [N Shares] at [Buy Price] at [running time in minutes and seconds from session start] for \$[total difference]” (same calculation for [total difference])

Flow loops back to Idle Stage after 10 seconds with relevant chart color and pop-up message.

**Illustrative Image** (below)

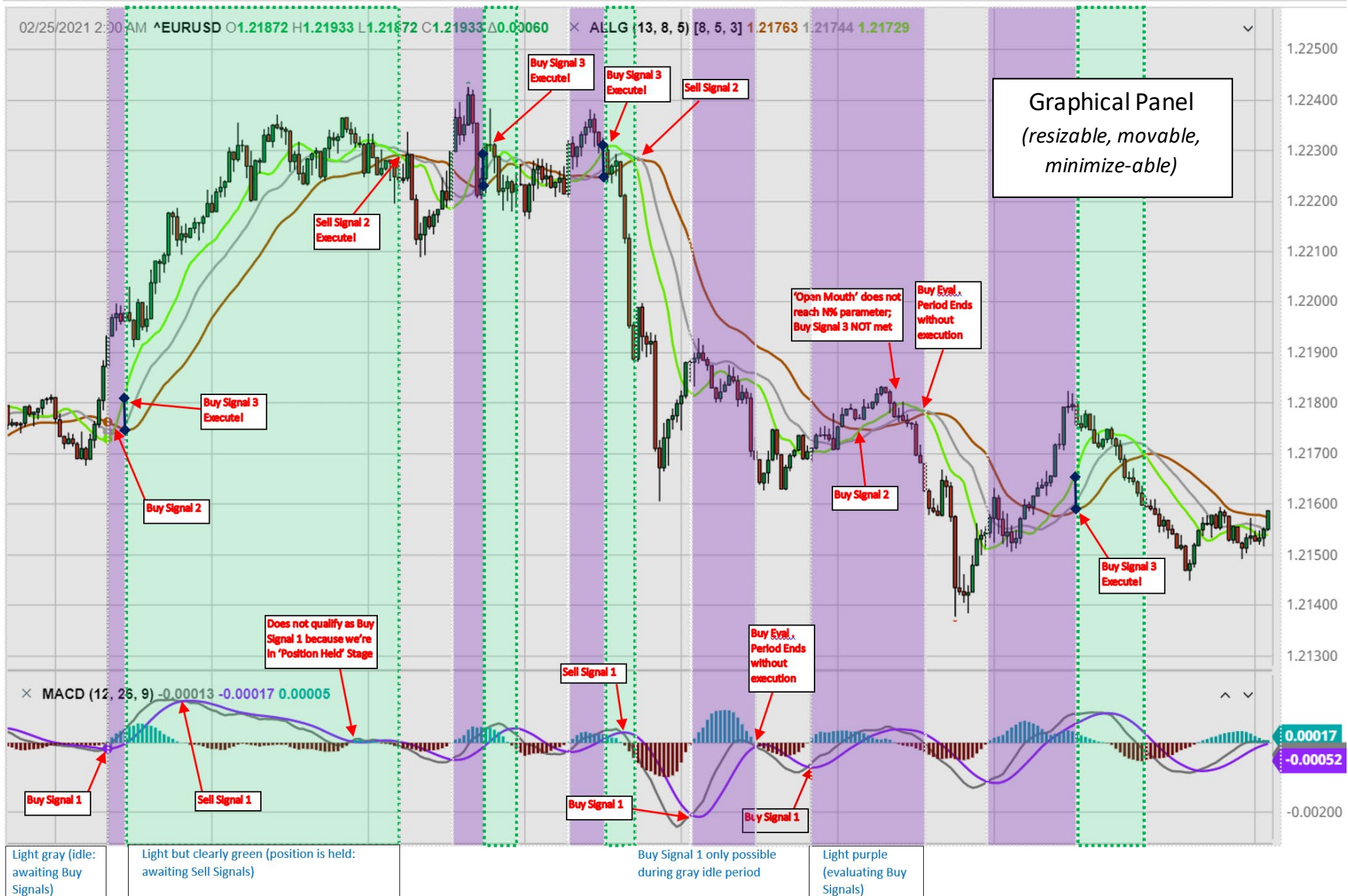



Image (above) exemplifies position of MACD, Alligator and candlesticks as well as how Stage colors are displayed at relevant start and stop points. Call-out boxes and red arrows are merely to identify a sampling of points when B1, B2, B3, S1, S2 would happen, as well as a couple incidents when signal logic doesn't trigger due to wrong sequence or Stage context. Note, also, the blue line with diamond endpoints denoting the point in the Alligator's mouth opening when B3 triggers; would like to include this, also, in pop-up visuals, showing same time as B3 + green Arrow.

Connection Error: Indicator should re-launch following loss of connection and display in pop-up message: "Connection Re-established!"

-  Insert black arrow with "**Reconnected**" to denote (approx.) point on candlestick where connection was re-established
- Write journal message with "Connection was lost! But is now found." Then commence loop-back to initial Stage and messaging.

### Template

- Candlesticks for main chart with user option of white or black background
- Williams Alligator lines should display on main candlestick chart as shown (middle gray line can be drawn, but not required)
- MACD chart can use standard line colors, but blue and maroon bars are preferable to bright green and red ones
- Periods for display like those in image are preferred, though MT4/5 may have less flexibility for such modifications

### Calculations

- Use bar openings for calculations to assure good performance (can be moved to ticks if/when called for)
- Likewise, notifications should only be sent after the completion of the candlestick
- All journal messages should be logged when in use on VPS (in addition to desktop versions of MT4/5)

### Graphical Panel

- Moveable (floating), minimize-able, and resize-able
- Where short "pop-up" messages are displayed (i.e., short 'notification' messages indicated in flow)
- Displayed and Options given to user:
  - Display: "Active Stage: [stage]" where [stage] = "Awaiting Buy Signal 1" or "Evaluating Buy Signals" or "Position Held, Awaiting Sell Signals"
  - Display: "Periods in Effect per Bar: [ ] min/hr" (*not sure if this can be editable here or just displayed*)
  - Input box, numeric: "Cash Basis this session: \$[ ]" (*assuming cash account, this is the only exposure user has for session*)
  - Input box, numeric: "% of Running Total to Reinvest: [ ]% within this session" (default to 100%; Fixed Lot = 0%)
  - "Profitable Sells Only (not counting broker fees)?" with radio button (on/off)
  - Input box, numeric: "Buy Signal 3 (B3) - Alligator 'Mouth Open': [ ]% of 13-week maximum"

- Input box, numeric: “Stop-loss – Pips below Buy Price: [ ]” or radio button for “None” (same line)
- “Mute alerts?” with radio button (on/off)
- “Automatically pause alerts & execution in off-hours?” with radio button (on/off)
- “Manually pause alerts & execution? (does not close/sell current position)” with radio button (on/off)
- Display: “‘Cash-is-King’ runtime: [running hr:mm:ss]” since indicator session start

#### Development & QA Process

- Complete code will be delivered to me. All code written in English with clear and thorough annotation.
- Developer should perform code profiling and use those to optimize Indicator performance
- Perform Indicator tests in Strategy Tester using visual testing mode and save for my review
  - Two- and 5-year increments of different time periods for long-range tests (use industry-standard bar sizes)
  - Three- and 6-month increments for mid-range tests (use industry-standard bar sizes)
  - Three-day increments for short-range tests with bar sizes varying from 1-min to 1-hr
- I will need to be able to sample sections of results from visual testing mode to validate sequence and logic of signals are working correctly
- Using “faux robotic” Buy and Sell Prices logged at B3 and S2 as well as journal entries for Stop-loss totals using the same “faux” prices, provide Indicator performance profiles for each of the Test periods/types above (e.g., for initial deposit of \$1000, % profitable trades, % loss trades, gross profit, gross loss, net profit/loss, etc.)

#### Developer recommendations are welcome for

- Parameterization for toggling between Every-Tick vs. At-Bar-Opening performance of Indicator, especially after optimizing Indicator and preparing to build EA
- Settings for B3’s N% will be critical to a profitable and engaging Indicator
  - Likely need max (e.g., 75%) in parameter so that too many Buys are not prevented; how best to identify that max value?
  - How best to identify the optimal value, which should vary by bar period selected, then use that as (dynamic) default?
- Recommendation for where to put parameters (i.e., Graphical Panel vs. standard Inputs) especially if ‘real estate’ becomes a problem? I defaulted to Panel because I wanted the Indicator’s use to be intuitive and for the user to be able to modify parameters “on the fly.” That seems more likely to happen from a Panel than if one must navigate to a different part of the MT4/5 platform.
- I use MT4, which is why that’s in the Reqs Spec Title and the one I want developed first. I won’t be surprised if expanding to MT5 will be a fast follow, so thoughts on development for quick conversion is appreciated.