



S-Trader





MACD | Moving Average Convergence Divergence

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Description

The Moving Average Convergence Divergence (MACD) was developed by Gerald Appel and is based on the differences between two moving averages of different lengths, a Fast - or Short - and a Slow - or Long - moving average. A second line, called the Signal line is plotted as a moving average of the MACD. A third line, called the MACD Histogram, is typically / optionally plotted as a histogram of the difference between the MACD and the Signal Line.

Formula

Step 1: Calculate the Short moving average for the requested short cycle periods and moving average type using existing formulas;

Step 2: Calculate the Long moving average for the requested long cycle periods and moving average type using existing formulas;

Step 3: Calculate $MACD = \text{Short moving average} - \text{Long moving average}$;

Step 4: Calculate MACD Signal as a moving average of MACD for the requested signal periods and moving average type using existing formulas;

Step 5: Calculate $MACD \text{ Histogram} = MACD - MACD \text{ Signal}$.

Parameters

Source	Any price source (O, H, L, C, Vol, OI) or any other built-in or custom study
Short Cycle	Any number of periods
Long Cycle	Any number of periods



Signal Periods	Any number of periods
MA Type	Any available moving average type

Output value(s)

There are three output values resulting from the formula, the MACD, the MACD Signal and the MACD Histogram.

Plot

The plot is in a separate panel at the bottom.

Quant Script™ Syntax

Short Form	<i>MACD</i> (Source, Short Cycle, Long Cycle, Signal Periods, MA Type)
	<i>MACDS</i> (Source, Short Cycle, Long Cycle, Signal Periods, MA Type)
	<i>MACDH</i> (Source, Short Cycle, Long Cycle, Signal Periods, MA Type)
Long Form	<i>MACDStudy</i> (Source, Short Cycle, Long Cycle, Signal Periods, MA Type)
	<i>MACDSignal</i> (Source, Short Cycle, Long Cycle, Signal Periods, MA Type)
	<i>MACDHistogram</i> (Source, Short Cycle, Long Cycle, Signal Periods, MA Type)



Dialogs

Chart Study Dialog

MACD [Close]

Indicator Parameters

Source: USD/CAD.open

ShortCycle: 5

LongCycle: 8

SignalPeriod: 3

MaType: Simple

Series Configuration

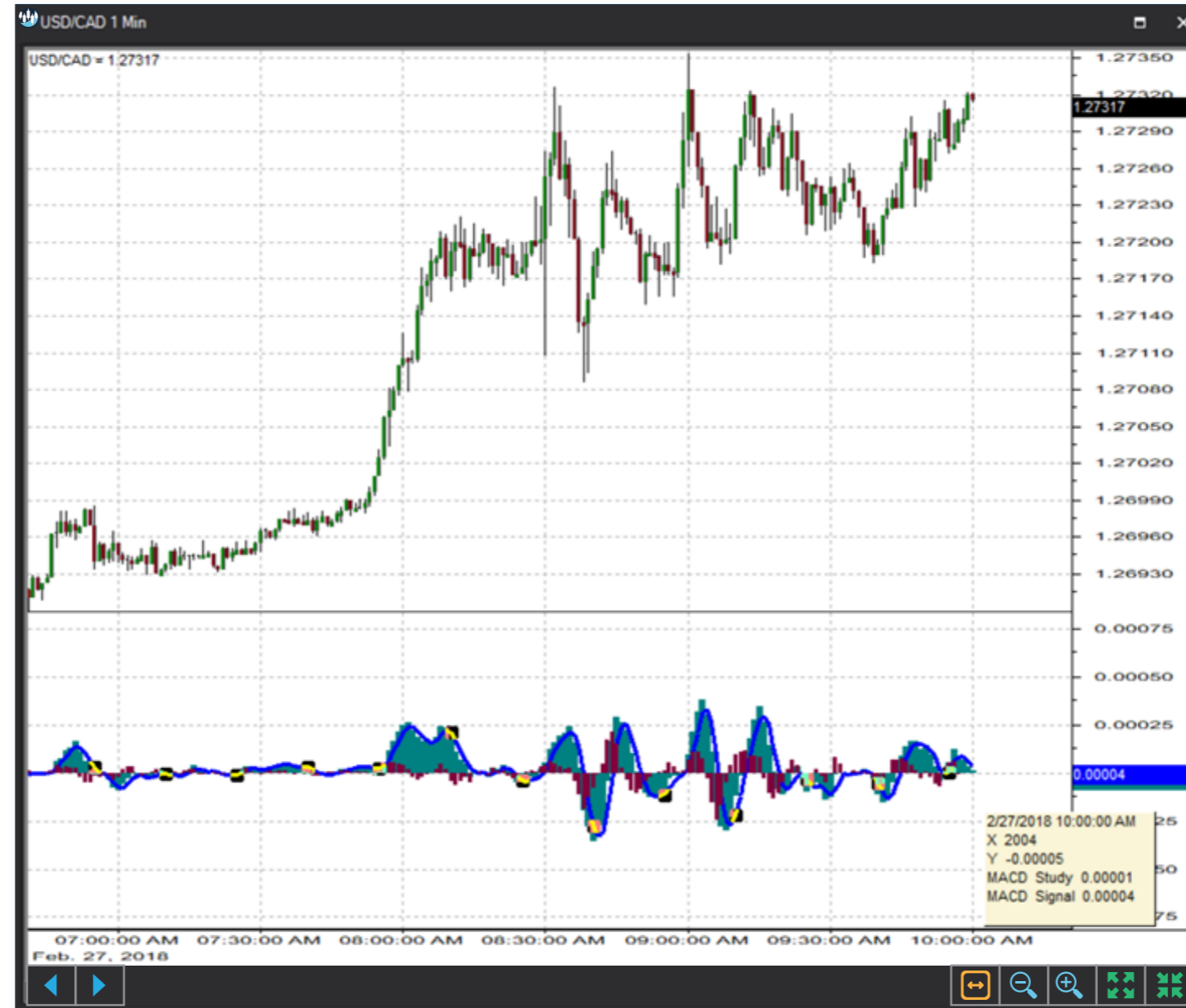
Series	Type	Style	Period	Color	Background
Study	Histogram	Solid	5	Teal	White
Signal	Line	Solid	3	Blue	White
Histogram	Histogram	Solid	3	Magenta	White

Save as Default Setting

[Add] [Cancel]



Sample Chart With Study





Quant Script™ Wizard Study Dialog

The image shows two overlapping dialog boxes from the S-Trader platform. The top dialog is the 'Custom Study Wizard' and the bottom is the 'Add Variable' dialog.

Custom Study Wizard

- Save To Group: Default
- Custom Study Name: [Empty text box]
- Password: [Empty text box]
- Result: Line, Solid, 2, [Color selection: teal]
- Reverse_Result: Line, Solid, 2, [Color selection: purple]
- Add To New Panel:
- Buttons: Add New Variable, Edit Selected Variable
- Table headers: Name, Description

Add Variable

- Name: [Empty text box]
- Description: [Empty text box]
- Variable list (left): ERBP, ERRP, ETHB, ETHR, FCO, FractalChaosOscillator, IMI, IntradayMomentumIndex, MACD, MACDH, MACDHistogram, MACDS, MACDSignal, MACDST, MACDSTH, MACDSTrader, MACDSTraderHistogram
- Parameters (right): Source: CLOSE, ShortCycle: 5, LongCycle: 8, SignalPeriod: 3, MaType: Simple
- Button: Create Script Line
- Preview: MACD(CLOSE, 5, 8, 3, Simple)
- Buttons: OK, Cancel



Quant Script™ Study Dialog

Custom Study Editor [Close]

Save To Group: 3_OSCILLATORS_PRICE [Dropdown] A: 14.00 [Dropdown]

Custom Study Name: MACD Study [Text]

Password: [Text]

Result: Line [Dropdown] Solid [Dropdown] 2 [Spinner] [Color Picker]

Reverse_Result: Line [Dropdown] Solid [Dropdown] 2 [Spinner] [Color Picker]

Formula [Add To New Panel]

```
SET A1 = MACD(CLOSE, 5, 8, 3, Simple)
SET A2 = MACDStudy(CLOSE, 5, 8, 3, Simple)

SET B1 = MACDS(CLOSE, 5, 8, 3, Simple)
SET B2 = MACDSignal(CLOSE, 5, 8, 3, Simple)

SET C1 = MACDH(CLOSE, 5, 8, 3, Simple)
SET C2 = MACDHistogram(CLOSE, 5, 8, 3, Simple)
```

[OK] [Cancel]