



**S-Trader**





## MACD ST | Moving Average Convergence Divergence ST (S-Trader)

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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.

The difference between the MACD and the MACD ST studies is that the MACD uses the same moving average type for all calculations whereas the MACDST allows using a different moving average type for each smoothing. In addition, the two moving averages that underlie the MACD study itself can be calculated from different price sources.

## Formula

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

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

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

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

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



## Parameters

<b>Short Source</b>	Any price source (O, H, L, C, Vol, OI) or any other built-in or custom study
<b>Short Cycle</b>	Any number of periods
<b>Short Cycle MA Type</b>	Any available moving average type
<b>Long Source</b>	Any price source (O, H, L, C, Vol, OI) or any other built-in or custom study
<b>Long Cycle</b>	Any number of periods
<b>Long Cycle MA Type</b>	Any available moving average type
<b>Signal Periods</b>	Any number of periods
<b>Signal MA Type</b>	Any available moving average type

## Output value(s)

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



## Plot

The plot is in a separate panel at the bottom.

## Quant Script™ Syntax

<b>Short Form</b>	<b>MACDST</b> (Short Source, Short Cycle, Short Cycle MA Type, Long Source, Long Cycle, Long Cycle MA Type, Signal Periods, Signal MA Type)
	<b>MACDSTS</b> (Short Source, Short Cycle, Short Cycle MA Type, Long Source, Long Cycle, Long Cycle MA Type, Signal Periods, Signal MA Type)
	<b>MACDSTH</b> (Short Source, Short Cycle, Short Cycle MA Type, Long Source, Long Cycle, Long Cycle MA Type, Signal Periods, Signal MA Type)
<b>Long Form</b>	<b>MACDTrader</b> (Short Source, Short Cycle, Short Cycle MA Type, Long Source, Long Cycle, Long Cycle MA Type, Signal Periods, Signal MA Type)
	<b>MACDTraderSignal</b> (Short Source, Short Cycle, Short Cycle MA Type, Long Source, Long Cycle, Long Cycle MA Type, Signal Periods, Signal MA Type)
	<b>MACDTraderHistogram</b> (Short Source, Short Cycle, Short Cycle MA Type, Long Source, Long Cycle, Long Cycle MA Type, Signal Periods, Signal MA Type)



## Dialogs

### Chart Study Dialog

**MACD ST** [Close]

Indicator Parameters

Source: USD/CAD.open

ShortCycle: 5

MaType: Simple

NextSource: USD/CAD.close

LongCycle: 8

MaNextType: Weighted

SignalPeriod: 3

SignalMaType: Exponential

Series Configuration

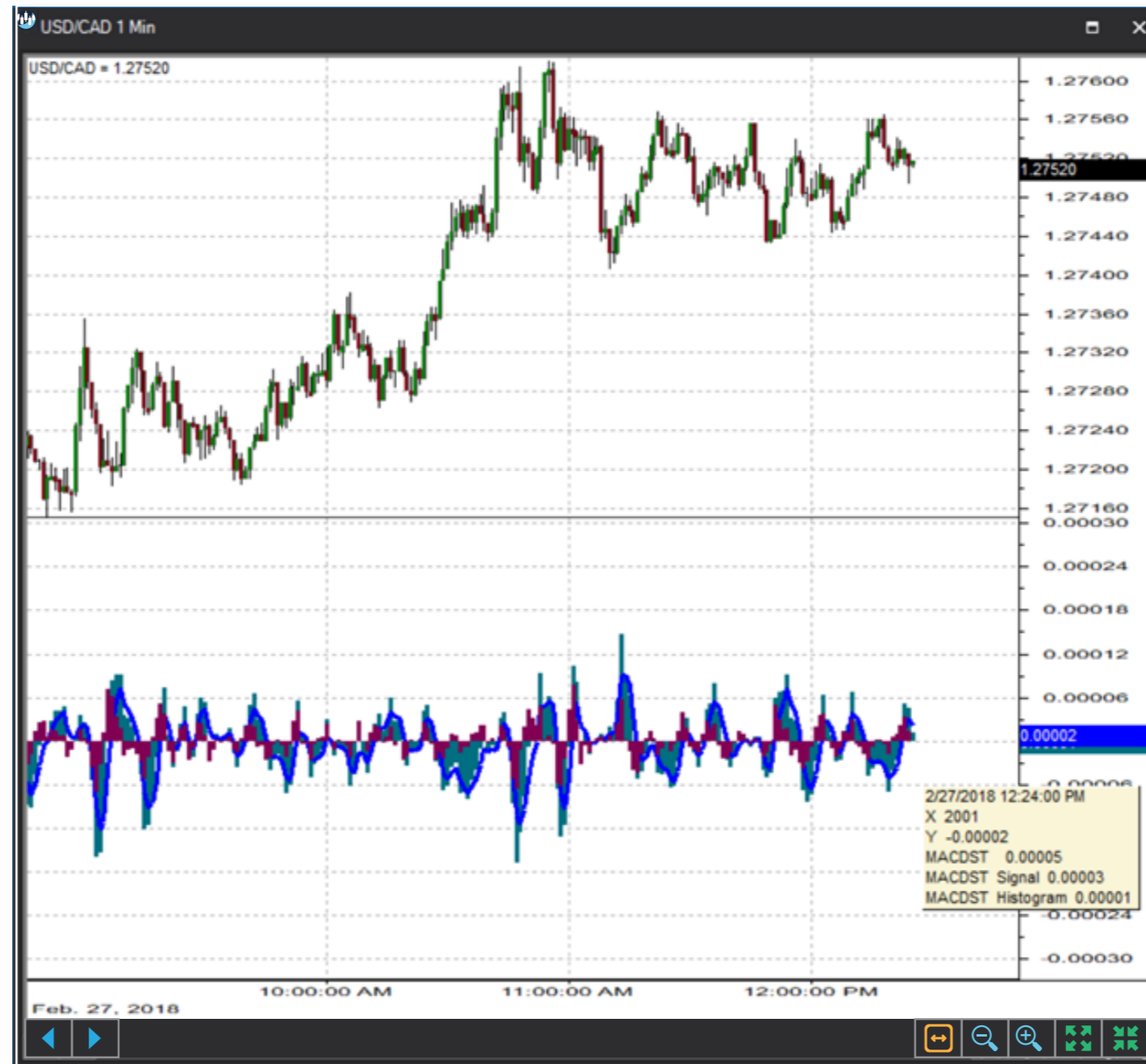
Series Name	Style	Line Style	Width	Color	Background
Main	Histogram	Solid	3	Teal	White
Signal	Line	Solid	3	Blue	White
Histogram	Histogram	Solid	3	Magenta	White

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 titled "Custom Study Wizard" and contains the following fields and controls:

- Save To Group: Default (dropdown)
- Custom Study Name: [Empty text box]
- Password: [Empty text box]
- Result: Line (dropdown), Solid (line style dropdown), 2 (period dropdown), [Color swatches]
- Reverse\_Result: Line (dropdown), Solid (line style dropdown), 2 (period dropdown), [Color swatches]
- Add To New Panel:
- Buttons: Add New Variable, Edit Selected Variable
- Table with columns: Name, Description

The bottom dialog is titled "Add Variable" and contains the following fields and controls:

- Name: [Empty text box]
- Description: [Empty text box]
- Variable List (Left): ERRP, ETHB, ETHR, FCO, FractalChaosOscillator, IMI, IntradayMomentumIndex, MACD, MACDH, MACDHistogram, MACDS, MACDSignal, **MACDST**, MACDSTH, MACDSTrader, MACDSTraderHistogram, MACDSTraderSignal, MACDSTS
- Configuration (Right):
  - Source: OPEN (dropdown)
  - ShortCycle: 5 (spin box)
  - MaType: Simple (dropdown)
  - NextSource: CLOSE (dropdown)
  - LongCycle: 8 (spin box)
  - MaNextType: Weighted (dropdown)
  - SignalPeriod: 3 (spin box)
  - SignalMaType: Exponential (dropdown)
- Buttons: Create Script Line
- Preview: MACDST(OPEN, 5, Simple, CLOSE, 8, Weighted, 3, Exponential)
- Buttons: OK, Cancel



## Quant Script™ Study Dialog

**Custom Study Editor** [Close]

Save To Group: Default [Dropdown] A 12.00 [Dropdown]

Custom Study Name: MACDST

Password: [Text Field]

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 = MACDST(OPEN, 5, SIMPLE, CLOSE, 8, WEIGHTED, 3, EXPONENTIAL)
SET A2 = MACDTrader(OPEN, 5, SIMPLE, CLOSE, 8, WEIGHTED, 3, EXPONENTIAL)

SET B1 = MACDSTS(OPEN, 5, SIMPLE, CLOSE, 8, WEIGHTED, 3, EXPONENTIAL)
SET B2 = MACDTraderSignal(OPEN, 5, SIMPLE, CLOSE, 8, WEIGHTED, 3, EXPONENTIAL)

SET C1 = MACDSTH(OPEN, 5, SIMPLE, CLOSE, 8, WEIGHTED, 3, EXPONENTIAL)
SET C2 = MACDTraderHistogram(OPEN, 5, SIMPLE, CLOSE, 8, WEIGHTED, 3, EXPONENTIAL)
```

[OK] [Cancel]