



S-Trader





ZVAL | Z Value

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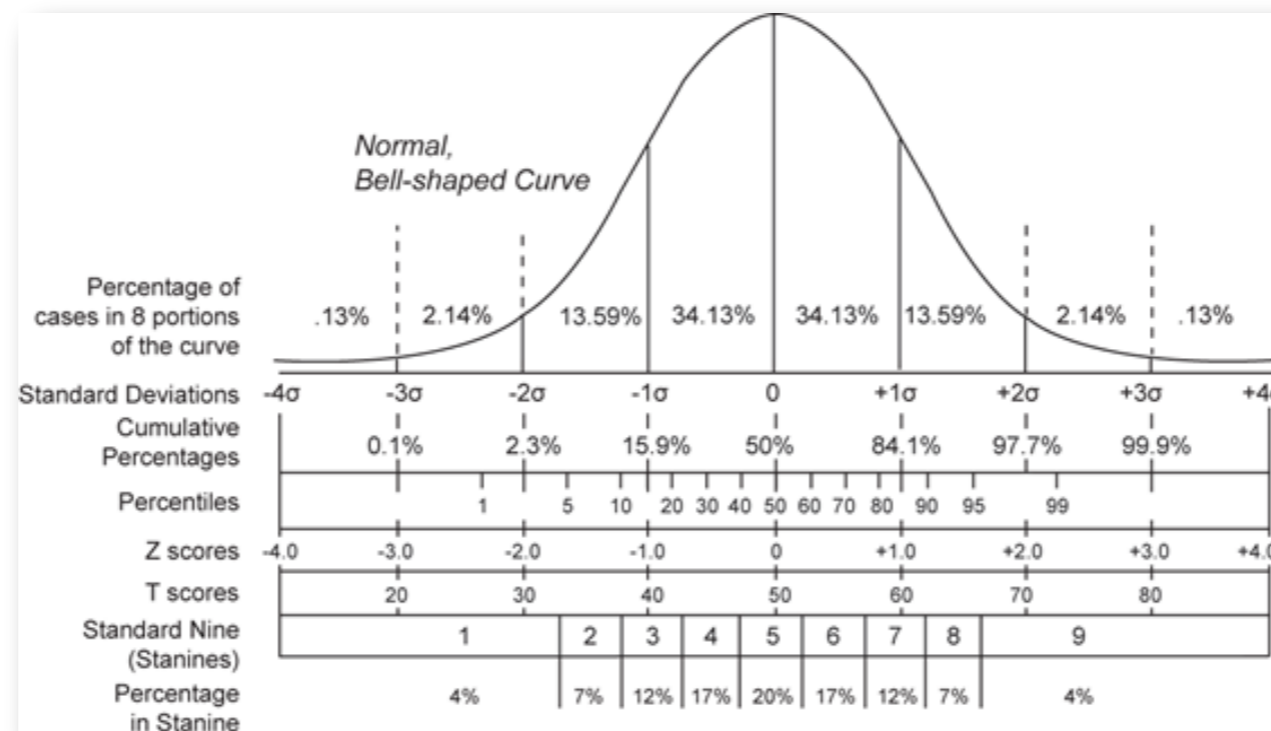


Description

In statistics, the standard score is the signed number of standard deviations by which the value of an observation or data point is above or below the mean value of what is being observed or measured. Observed values above the mean have positive standard scores, while values below the mean have negative standard scores. The standard score is a dimensionless quantity obtained by subtracting the population mean from an individual raw score and then dividing the difference by the population standard deviation. This conversion process is called standardizing or normalizing .

Standard scores are also called z-values, z-scores, normal scores, and standardized variables. They are most frequently used to compare an observation to a standard normal deviate, though they can be defined without assumptions of normality.

Computing a z-score requires knowing the mean and standard deviation of the complete population to which a data point belongs; if one only has a sample of observations from the population, then the analogous computation with sample mean and sample standard deviation yields the Student's t-statistic.





Formula

Step 1: Calculate the right moving average for the specified source, n periods and moving average type using existing formulas;

Step 2: Calculate the series $\sigma =$ Standard Deviation using the existing formulas;

Step 3: Calculate Z Value = $(X_i - X_{AVERAGE}) / \sigma$

Parameters

Source	Any price source (O, H, L, C, Vol, OI) or any other built-in or custom study
Periods	Any number of periods
MA Type	Any available moving average type

Output value(s)

There is one output value resulting from the formula, the Z Value.

Plot

The plot is in a separate panel at the bottom.

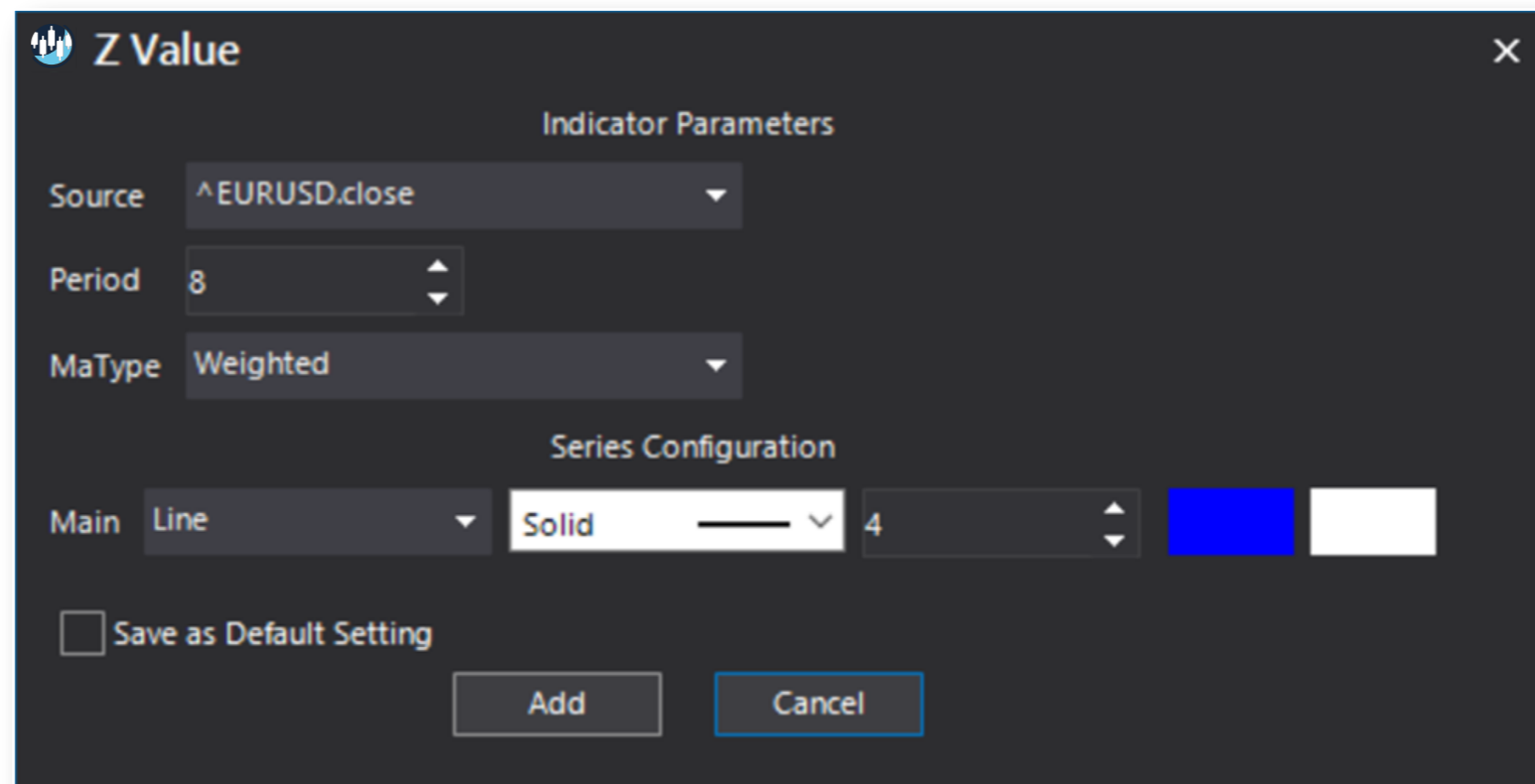


Quant Script Syntax

Short Form	<i>ZVAL</i> (Source, Periods, MA Type)
Long Form	<i>ZValue</i> (Source, Periods, MA Type)

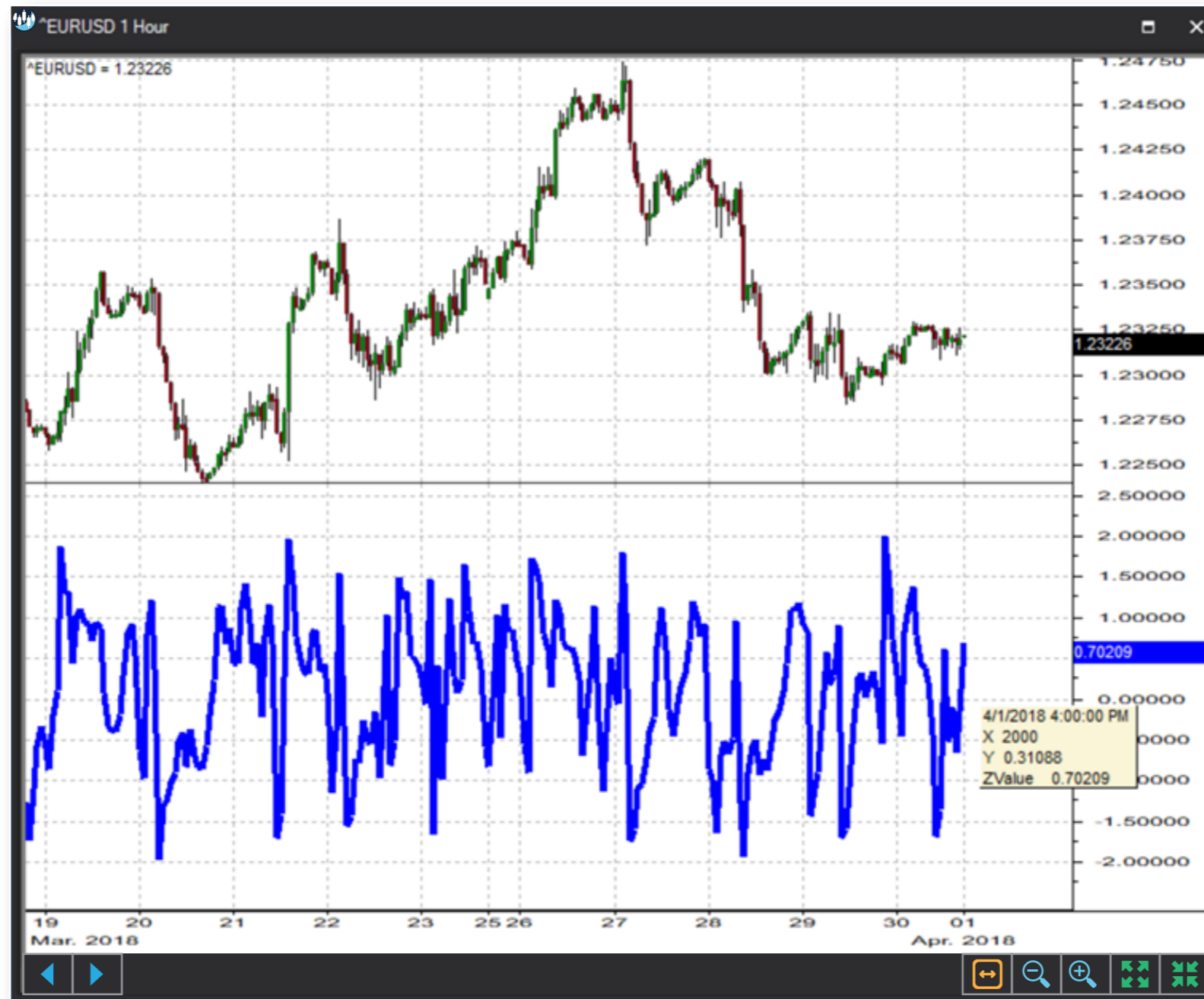
Dialogs

Chart Study Dialog





Sample Chart With Study





Quant Script™ Wizard Study Dialog

The image shows two overlapping dialog boxes in the S-Trader Desktop Platform. The 'Custom Study Wizard' dialog is on the left, and the 'Add Variable' dialog is on the right.

Custom Study Wizard

- Save To Group: Default
- Custom Study Name: [Empty text field]
- Password: [Empty text field]
- Result: Histogram, Solid, 2, [Color swatches]
- Reverse_Result: Histogram, Solid, 2, [Color swatches]
- Add To New Panel:
- Buttons: Add New Variable, Edit Selected Variable
- Table:

Name	Description
------	-------------
- Buttons: OK, Cancel

Add Variable

- Name: [Empty text field]
- Description: [Empty text field]
- Source: CLOSE
- Period: 8
- MaType: Weighted
- Variable List: ATR, AverageTrueRange, ChaikinVolatility, CV, EFT, EFTS, EhlerFisherTransform, EhlerFisherTransformSignal, HighMinusLow, HistoricalVolatilityIndex, HML, HVI, MassIndex, MI, TR, TrueRange, ZVAL, ZValue
- Buttons: Create Script Line
- Code Editor: ZValue(CLOSE, 8, Weighted)
- Buttons: OK, Cancel



Quant Script™ Study Dialog

Custom Study Editor [X]

Save To Group: 6_VOLATILITY [A] 14.25

Custom Study Name: ZVAL

Password: []

Result: Histogram [Solid] 2 [Color swatches]

Reverse_Result: Histogram [Solid] 2 [Color swatches]

Formula [Add To New Panel]

```
SET RESULT = ZVAL(CLOSE, 8, WEIGHTED)
SET REVERSE_RESULT = ZValue(CLOSE, 8, WEIGHTED)
```

[OK] [Cancel]