



**S-Trader**





## RWI | Random Walk Index

### Contents

Description .....	3
Formula .....	3
Parameters .....	4
Output value(s) .....	4
Plot .....	4
Quant Script™ Syntax .....	4
Dialogs .....	5
Chart Study Dialog .....	5
Sample Chart With Study .....	6
Quant Script™ Wizard Study Dialog .....	7
Quant Script™ Study Dialog .....	8



## Description

The Random Walk Index (RWI) is a technical indicator that attempts to determine if an instrument's price movement is of random nature or the result of a statistically significant trend. The random walk index attempts to determine when the market is in a strong uptrend or downtrend by measuring price ranges over n periods and how it differs from what would be expected by a random walk (randomly going up or down). The greater the range the stronger the trend. The RWI states that the shortest distance between two points is a straight line and the further prices stray from a straight line, implies the market is choppy and random in nature.

## Formula

Step 1: For selected n periods, calculate  $ATR(1), ATR(2), ATR(3), \dots, ATR(n)$

Step 2: For Random Walk Index Down calculate

- $(Low\ Today - High\ Yesterday) / [\sqrt{1} * ATR(1)]$
- $(Low\ Today - High\ 2\ days\ ago) / [\sqrt{2} * ATR(2)]$
- $(Low\ Today - High\ 3\ days\ ago) / [\sqrt{3} * ATR(3)]$
- ..... $(Low\ Today - High\ n\ days\ ago) / [\sqrt{n} * ATR(n)]$
- RWID = Min of values above

Step 3: For Random Walk Index Up calculate

- $(High\ Today - Low\ Yesterday) / [\sqrt{1} * ATR(1)]$
- $(High\ Today - Low\ 2\ days\ ago) / [\sqrt{2} * ATR(2)]$
- $(High\ Today - Low\ 3\ days\ ago) / [\sqrt{3} * ATR(3)]$
- ..... $(High\ Today - Low\ n\ days\ ago) / [\sqrt{n} * ATR(n)]$
- RWIU = Max of values above



## Parameters

<b>Periods</b>	Any number of periods
<b>ATR MA Type</b>	Any moving average type

## Output value(s)

There are two output values resulting from the formula, the Random Walk Index Up and the Random Walk Index Down.

## Plot

The plot is in a separate panel at the bottom.

## Quant Script™ Syntax

<b>Short Form</b>	<i>RWIU</i> (Periods, ATR MA Type)
	<i>RWID</i> (Periods, ATR MA Type)
<b>Long Form</b>	<i>RandomWalkIndexUp</i> (Periods, ATR MA Type)
	<i>RandomWalkIndexDown</i> (Periods, ATR MA Type)



## Dialogs

### Chart Study Dialog

**RandomWalk Index** [Close]

Indicator Parameters

Period: 8

MaType: Weighted

Symbol: ESM8

Series Configuration

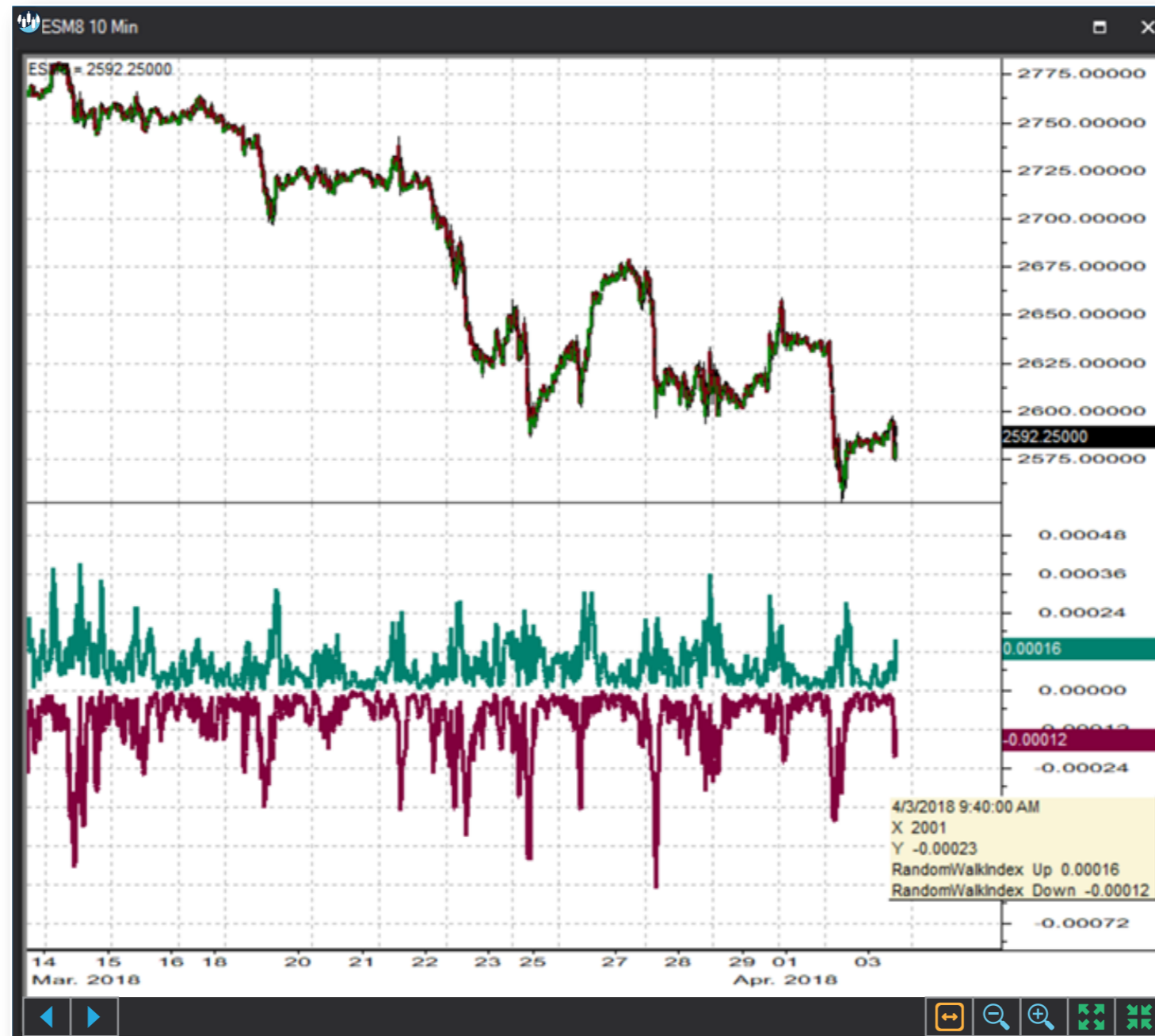
Direction	Style	Line Style	Width	Color	Background
Up	Histogram	Solid	3	Teal	White
Down	Histogram	Solid	3	Magenta	White

Save as Default Setting

[Add] [Cancel]



## Sample Chart With Study





## Quant Script™ Wizard Study Dialog

The image shows two overlapping dialog boxes 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 box]
- Password: [Empty text box]
- Result: Line, Solid, 2, [Color swatches]
- Reverse\_Result: Line, Solid, 2, [Color swatches]
- Add To New Panel:
- Buttons: Add New Variable, Edit Selected Variable
- Table with columns: Name, Description
- Buttons: OK, Cancel

**Add Variable**

- Name: [Empty text box]
- Description: [Empty text box]
- Variable List: LRI, LRS, R2, RandomWalkIndexDown, RandomWalkIndexUp, RangeActionVerificationIndex, RAVI, RSquared, RWID, RWIU, SchaffTrendCycleMACD, SchaffTrendCycleMACDS, SI, Slope, STCMACD, STCMACDS, SwingIndex
- Period: 8
- MaType: Weighted
- Button: Create Script Line
- Preview: RandomWalkIndexUp(8, Weighted)
- Buttons: OK, Cancel



## Quant Script™ Study Dialog

**Custom Study Editor** [Close]

Save To Group: 5\_TREND INDICATORS [Dropdown] A 14.25 [Dropdown]

Custom Study Name: RWIU

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 = RWIU(8, weighted)
SET A2 = RandomWalkIndexUp(8, weighted)

SET B1 = RWID(8, weighted)
SET B2 = RandomWalkIndexDown(8, weighted)
```

[OK] [Cancel]