

WinFrog Device Group:	Counter
Device Name/Model:	AtlantidaCounter
Device Manufacturer:	
Device Data String(s) Output to WinFrog:	
WinFrog Data String(s) Output to Device:	
WinFrog Data Item(s) and their RAW record:	CABLE COUNT 492

DEVICE DESCRIPTION:

This device provides WinFrog with cable count, tension and speed data, either telephone or tow cable, from the equipment on board the cable ship Atlantida.

DEVICE CONFIGURATION INSTRUCTIONS

WINFROG I/O DEVICES > EDIT I/O:

Serial
Configurable Parameters

WINFROG I/O DEVICES > CONFIGURE DEVICE:

This device must be configured at the I/O Device window level. In the I/O Devices window, click the device name to select it, then right-click and select Configure Device. The Configure Cable Tension and Speed dialog box appears, as seen below.

Configure Cable Tension & Speed [?] [X]

Counter

Scale Factor: 1.000000

Offset: 0.0

Rate: 1.0

Telephone Cable Tow Cable

Tension

	Voltage	Tension (T)
Lower	2.0	0.0
Upper	10.0	60.0

Scaler: -0.00100

Tension = Delta Tension * (Obs value * Scaler - Lower Voltage) / Delta Voltage

Delta = Upper - Lower

Telephone cable Tow Cable

Speed

	Voltage	Speed (m/s)
Lower	0.0	0.0
Upper	10.0	5.0

Scaler: -0.00100

Filter (1..10): 1

OK Cancel

This dialog box is divided into three sections; Counter, Tension and Speed.

Counter

If you determine that the incoming cable count is incorrect, possibly due to a mis-calibration of the counter itself, a compensating scale factor can be entered here. This can also be used to convert incoming units to the desired units if necessary. Also, an offset value and cable payout rate factor can be entered in the appropriate fields. The payout rate factor works the same as the Scale Factor where you can compensate for a mis-calibration and/or convert the incoming units. You must also specify whether this device is counting Telephone Cable or Tow Cable.

Tension

As can be seen from the formula used to derive the cable tension, you must enter an upper and lower limit value for both the voltage and tension, as well as a scaler. These limits should be confirmed prior to the commencement of any project. Check

with the personnel in charge of the counter to determine both the expected voltage and tension limits. The Scalar is simply a value that will be multiplied by the observed value to derive the actual value. You must also specify whether this device is measuring the tension of the Telephone Cable or Tow Cable.

Speed

You must enter an upper and lower limit value for both the voltage and speed, as well as a scalar. These limits should be confirmed prior to the commencement of any project. Check with the personnel in charge of the counter to determine both the expected voltage and cable speed limits. The Scalar is simply a value that will be multiplied by the observed value to derive the actual value. You can also enter an appropriate value in the Filter field to smooth the cable payout speed. Use of such a filter helps to smooth the cable speed data by eliminating instantaneous spikes giving a general trend. The number entered will represent the number of received speed values that will be averaged to give the current speed value. Keep in mind that the larger the value entered, the more filtering is applied and the less responsive the filtered values will be to changes in real time speed.

WINFROG VEHICLE > CONFIGURE VEHICLE DEVICES > DEVICE DATA ITEM > EDIT:

Adding the AtlantidaCounter device creates the COUNT data item. Once the data item has been added to the vehicle, it must be edited to suit the application.

Data item: COUNTER, AtlantidaCounter, COUNT

Highlight the COUNTER, AtlantidaCounter, COUNT data item in the vehicle's device list and click the Edit button to open the Configure Counter dialog box.

This data item configuration dialog has two tabs, Reference Counters and Real-Time Navigation Updates.

Reference Counters

The screenshot shows a software dialog box titled "Configure Counter" with a "Reference Counters" tab selected. The dialog is divided into several sections for configuring a counter:

- Choose Reference Counter to Modify:** A dropdown menu is set to "Counter# 1". To its right is a "Direction" section with a "Up / Down" button.
- Set Specific Cable Count:** A text input field contains "1000" and a "SET" button is to its right.
- Set Counter Scale:** A text input field contains "1.0000000". Below it, the label "New Counter Scale from Cable Count" is followed by a text input field containing "0.0" and a "SET" button.
- Set Counter Offset:** A text input field contains "0.0" and a "SET" button is to its right.
- Counter Name:** A text input field contains "Counter# 1" and a "SET" button is to its right.

At the bottom of the dialog are "OK" and "Cancel" buttons.

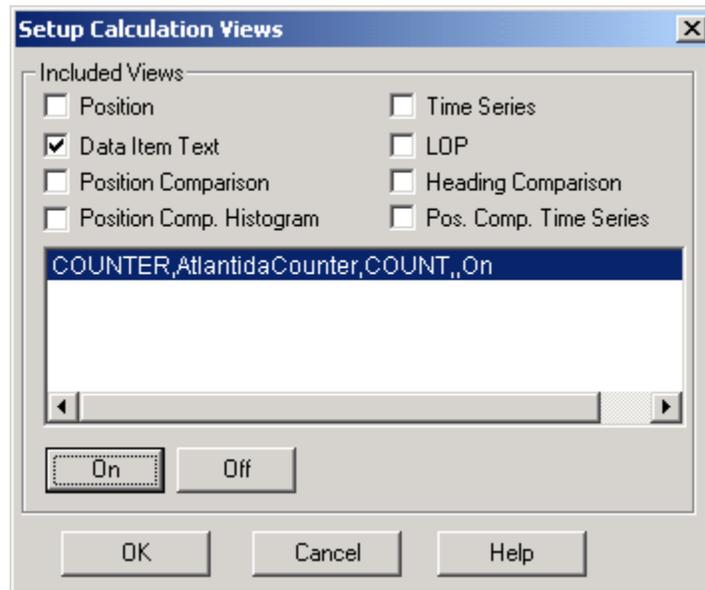
This tab is used in conjunction with the Calculations window to maintain up to five reference counts based on the Channel One (cable) count. These reference counts are not used for any real-time calculations and are not logged to any file; they are intended for reference purposes only.

One common use for the Reference Counters page is to have a 'count down' between cable body deployment. This is accomplished by entering the cable spans between cable bodies in the 'Set Specific Cable Count' field(s), selecting the 'Direction' as 'Down' and exiting with OK when the first cable body is launched. The results of this configuration are typically viewed in a Calculations window.

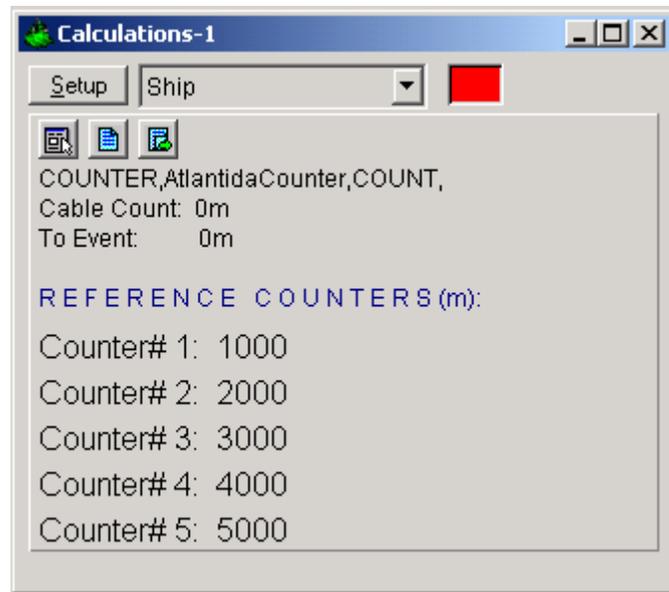
View and configure the Calculations window (shown below) by completing the following steps.

Note: To view the reference counts, the COUNT data item must be attached to the vehicle.

1. From the WinFrog View menu select the Calculations item to open the Calculations window.
2. In the Calculations window, click the Setup button to open the Setup Calculation Views dialog box shown below.



3. Select the Data Item Text checkbox. Then turn On the COUNT data item by selecting the COUNT data item from the list and click the On button.
4. Click OK and the Calculations window opens as seen below.



Once the Calculations window has been opened and configured the five reference counters can be modified using the Reference Counters tab of the Configure Counter dialog. (Note: the Configure Counter dialog can be directly accessed from the Calculations window by clicking the  icon in the Calculations window.)

The Reference Counter tab allows the reference counters to be modified in a number of ways, as described below. Start by selecting the reference counter to be modified from the dropdown list box at the top of the page.

Direction

When the *Up/Down* button is not depressed, the reference count will increase if the input cable count increases and decrease if the input cable count decreases. When the *Up/Down* button is depressed, the reference count will decrease if the input cable count increases and increase if the input cable count decreases.

Set Specific Cable Count

To set the reference counter to a specific cable count, enter the desired value in the edit field then click the *Set* button. When the Configure Counter dialog OK button is then clicked, the desired reference counter value will be set to the entered value. This value will then continue to increment or decrement based on the input cable count and the current settings for the reference count.

Set Counter Scale

To change the scale at which the reference count will increment or decrement relative to the input cable count, enter the desired scale factor into the scale field. Leave the *New Counter Scale from Cable Count* value at its present value to apply the scale from the current point onward. Enter a count value into the *New Counter Scale from Cable Count* field to apply the scale from a previous count value onward. Once the desired scale factor and count value is entered, click the *Set* button and then click the *OK* button.

Set Counter Offset

To set an offset from the input cable count to the reference count, enter the desired value into the Set Counter Offset field, click the *Set* button and then click the *OK* button. This value will be added to the input cable count.

Counter Name

To change the reference counter name, enter the desired name into the *Counter Name* field. Click the *Set* and then the *OK* button to enter the change.

Real-Time Navigation Updates

The screenshot shows the 'Configure Counter' dialog box with the 'Real-Time Navigation Updates' tab selected. The dialog has a title bar with a question mark and a close button. Below the title bar are two tabs: 'Reference Counters' and 'Real-Time Navigation Updates'. The 'Real-Time Navigation Updates' tab contains several sections:

- Interval:** A text box containing '1.0 s' and a label 'Enter Raw Data File Logging Interval in Seconds, 0=All Data'.
- Channel 1 (Telephone / Power Cable):** A section with three checked checkboxes: 'Cable Count', 'Payout Speed', and 'Tension'.
- Channel 2 (Tow Cable):** A section with three checked checkboxes: 'Cable Count', 'Payout Speed', and 'Tension'.
- Channels 3,4,5 Tension:** A section with three unchecked checkboxes: 'LCE Tension (Channel 3)', 'CDE 1 Tension (Channel 4)', and 'CDE 2 Tension (Channel 5)'. The 'Tension' checkbox in the Channel 2 section is highlighted with a dotted border.
- General:** A section with two unchecked checkboxes: 'Distance to Event' and 'Cable Angle'.

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

This page enables/disables certain data from this device to be passed to the vehicle. Unlike the Reference Counters tab, data from the Real-Time Navigation Updates tab can be logged to the raw files if this data item is associated with a vehicle. This allows the vehicle to have more than one COUNT without one conflicting with the other. One COUNTER device may provide the telephone cable count while the other provides the tow count. If a checkbox is selected (checked) the data value will be passed to the vehicle. For example, if the *Cable Count* checkbox is selected in the *Channel 1* section, then the cable count from the input device will be passed to the vehicles channel 1 count.

It is important to note that if the data string from the counter device does not contain certain data types (count, tension or speed), these options should not be selected. Selecting an option for which there is no data in the string causes WinFrog to assign

a zero in the selected field and it may result in valid data from other sources being overwritten with zeroes.

The *Interval* section sets the data logging interval used when the “With Events” Logging Control option is selected (refer to chapter 10 of the WinFrog User’s Guide for more information).