

<b>WinFrog Device Group:</b>	<b>COUNTER</b>
<b>Device Name/Model:</b>	<b>Teneo Counter</b>
<b>Device Manufacturer:</b>	
<b>Device Data String(s) Output to WinFrog:</b>	
<b>WinFrog Data String(s) Output to Device:</b>	NONE
<b>WinFrog Data Item(s) and their RAW record:</b>	COUNT      492

**DEVICE DESCRIPTION:**

This is a driver designed to read cable count, tension and speed data from the Teneo counter device. The tension and speed data is converted, via an analog to digital converter, from voltages to tonnes and m/sec respectively.

***DEVICE CONFIGURATION INSTRUCTIONS***

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**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 & 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): 0

OK Cancel

This dialog box is made up of 3 sections, Counter, Tension and Speed.

### Counter

If the operator determines 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 the operator can compensate for a mis-calibration and/or convert the incoming units. The operator 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, the operator 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. The operator must also specify whether this device is measuring the tension of the Telephone Cable or Tow Cable.

## **Speed**

The operator must enter an upper and lower limit value for both the voltage and speed, 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 cable speed limits. The Scalar is simply a value that will be multiplied by the observed value to derive the actual value. The operator 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 Teneo Counter 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, Teneo Counter, COUNT**

Highlighting the COUNTER, Teneo Counter, COUNT data item in the vehicle's device list and clicking on Edit opens the Configure Counter dialog box.

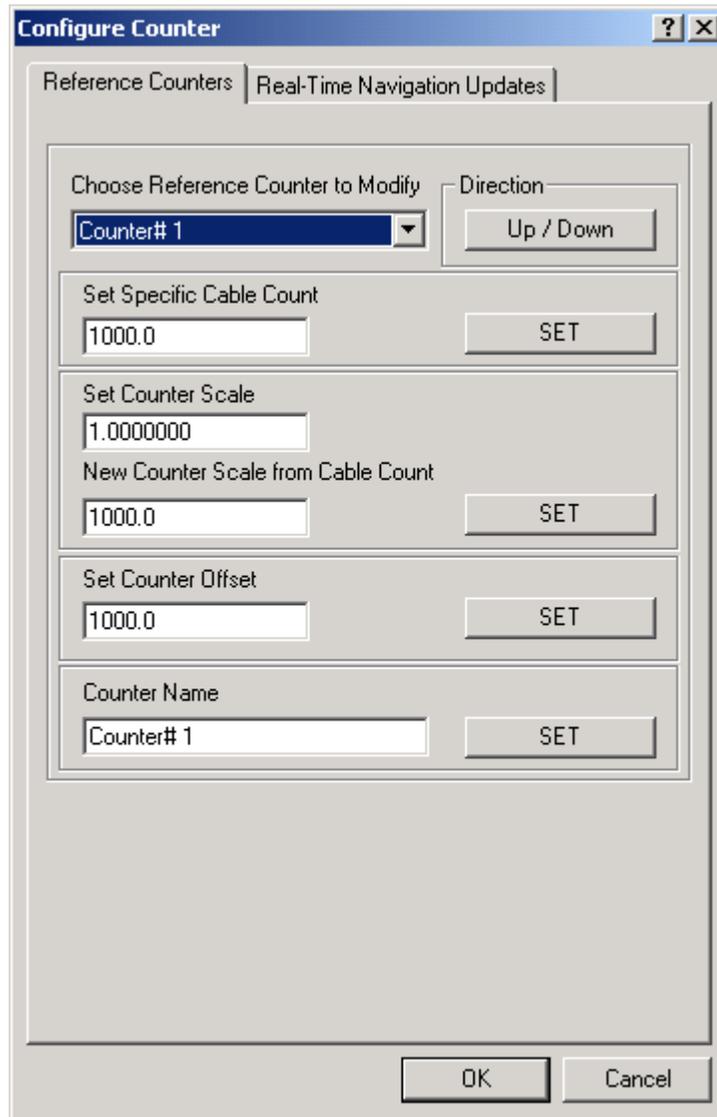
This data item configuration dialog has two pages, the Reference Counters page and the Real-Time Navigation Updates page.

### ***Reference Counters Page***

This page (shown below) 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'

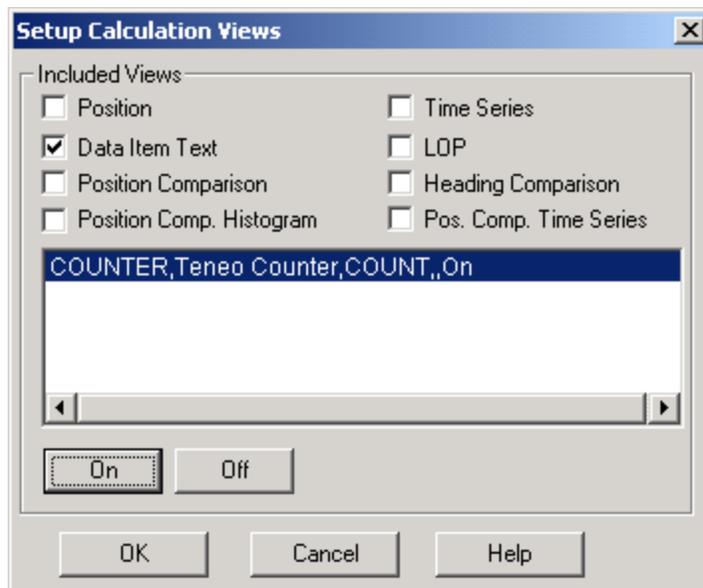
and exiting with OK when the first cable body is launched. The results of this configuration are typically viewed in a Calculations window.



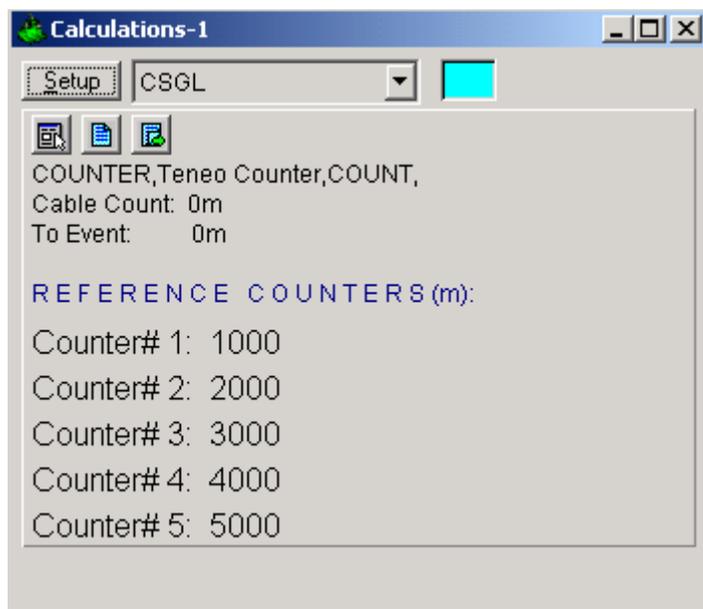
View and configure the Calculations window (shown below) by completing the following steps.

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. In the Setup Calculation Views dialog 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 page 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 page 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 drop down 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 Page

The screenshot shows a Windows-style dialog box titled "Configure Counter" with a blue title bar and standard window controls. It has two tabs: "Reference Counters" and "Real-Time Navigation Updates", with the latter selected. The dialog is organized into several sections:

- Interval:** A text box contains "1.0 s". To its right is the text "Enter Raw Data File Logging Interval in Seconds, 0=All Data".
- Channel 1 (Telephone / Power Cable):** A group box containing three checked checkboxes: "Cable Count", "Payout Speed", and "Tension".
- Channel 2 (Tow Cable):** A group box containing three checked checkboxes: "Cable Count", "Payout Speed", and "Tension".
- Channels 3,4,5 Tension:** A group box containing three unchecked checkboxes: "LCE Tension (Channel 3)", "CDE 1 Tension (Channel 4)", and "CDE 2 Tension (Channel 5)".
- General:** A group box containing two unchecked checkboxes: "Distance to Event" and "Cable Angle".

At the bottom right 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 page, data from the Real-Time Navigation Updates page 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 from this page. 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).