

WinFrog Device Group:	COUNTER
Device Name/Model:	MKS ZX
Device Manufacturer:	
Device Data String(s) Output to WinFrog:	
WinFrog Data String(s) Output to Device:	
WinFrog Data Item(s) and their RAW record:	COUNT 492

DEVICE DESCRIPTION:

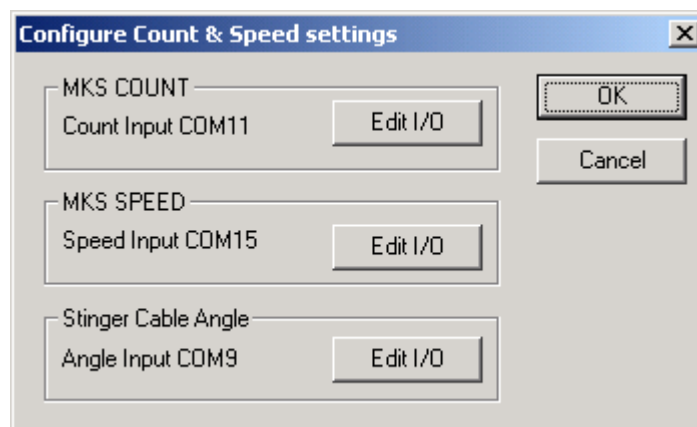
This is a device designed to read cable count and cable deployment speed data from the MKS ZX counter. In addition, this device uses incoming voltage data to calculate the alpha angle (i.e. angle measured downward from the horizontal) of the cable.

DEVICE CONFIGURATION INSTRUCTIONS

WINFROG I/O DEVICES > EDIT I/O:

Serial
Configurable Parameters

This device requires three com ports, one each for MKS COUNT, MKS SPEED and Stinger Cable Angle data. When the MKS ZX device is added to WinFrog, the Configure Count and Speed settings dialog box opens as seen below.



Click the Config button for each one of the data types to open the standard Device I/O Parameters windows. Enter The I/O parameters for each data type and exit with OK.

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 COUNTER / INCLINOMETER dialog box appears, as seen below.

Counter	
Scale Factor	1.00000
Offset	0.0

Cable Angle		
	Voltage (V)	Angle (degrees)
Upper	0.5	30.0
Lower	2.5	-30.0
Scaler	1.00000	Offset
		-30.00

If you determine that the incoming cable count is incorrect, possibly due to a miscalibration of the counter itself, a compensating Scale Factor can be entered in the Counter section. An offset value can also be entered. This offset value will be added to the scaled cable count.

In the Cable Angle section enter the expected Upper and Lower voltages along with the corresponding Upper and Lower Angles in degrees. It is advisable to refer to MKS ZX documentation or to the personnel in charge of operating the MKS ZX counter to determine these limits. Similarly, you should check MKS ZX documentation or with the personnel in charge of operating the MKS ZX counter to determine the Scaler that will be multiplied by the incoming voltage value. From there you should be able to determine an appropriate Offset value to be added to the Angle to give the desired final angular values.

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

Adding the MKS ZX 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, MKS ZX, COUNT

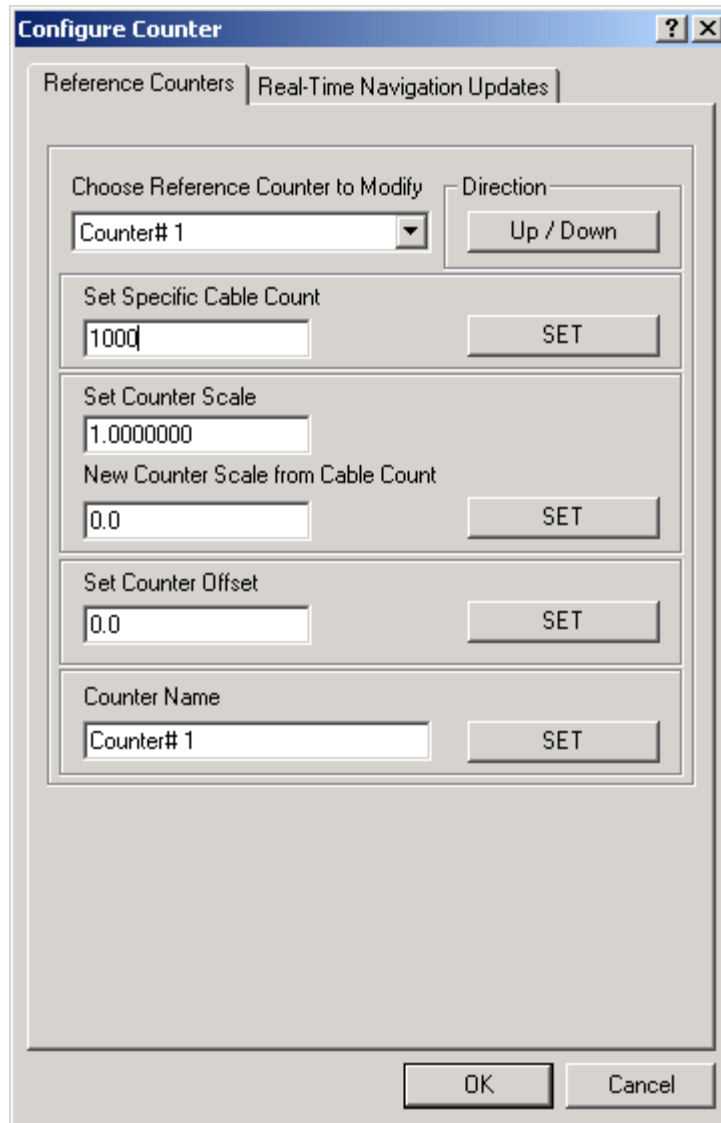
Highlighting the COUNTER, MKS ZX, COUNT data item in the vehicle's device list and clicking on Edit opens the Configure Counter dialog box.

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 a 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.

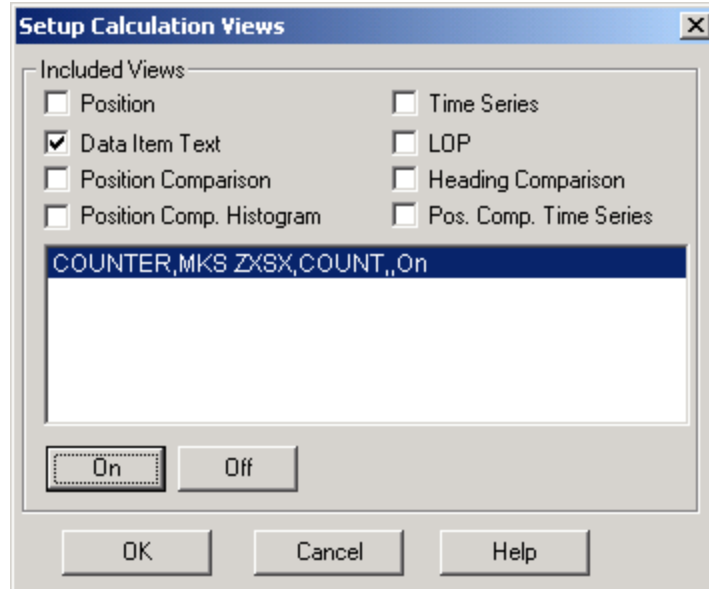
One common use for the Reference Counters page is to have a 'count down' between cable body deployment. This is accomplished by entering the cable spans between cable bodies in the 'Set Specific Cable Count' field(s), selecting the 'Direction' as 'Down' and exiting with OK when the first cable body is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



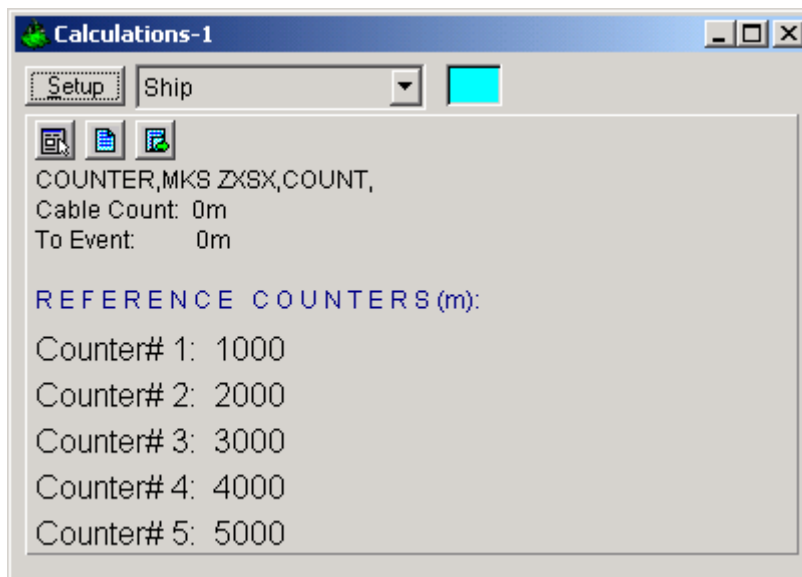
View and configure the Calculations window (shown below) by completing the following steps.


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 'Configure Counter' dialog box with two tabs: 'Reference Counters' and 'Real-Time Navigation Updates'. The 'Real-Time Navigation Updates' tab is active. It contains the following 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):** Three checkboxes: 'Cable Count' (checked), 'Payout Speed' (checked), and 'Tension' (unchecked).
- Channel 2 (Tow Cable):** Three checkboxes: 'Cable Count' (unchecked), 'Payout Speed' (unchecked), and 'Tension' (unchecked).
- Channels 3,4,5 Tension:** Three checkboxes: 'LCE Tension (Channel 3)' (unchecked), 'CDE 1 Tension (Channel 4)' (unchecked), and 'CDE 2 Tension (Channel 5)' (unchecked).
- General:** Two checkboxes: 'Distance to Event' (unchecked) and 'Cable Angle' (unchecked).

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 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).