

WinFrog Device Group:	ROV
Device Name/Model:	NSCADA Data Logger
Device Manufacturer:	Perry Slingsby Systems - USA 821 Jupiter Park Drive Jupiter, Florida 33458-8946 Tel: +1.561.743.7000; Fax: +1.561.743.1313 www.perrytritech.com Perry Slingsby Systems - UK Ings Lane, Kirkbymoorside York, England YO62 6EZ Tel: +44 1751 431751; Fax: +44 1751 431388
Device Data String(s) Output to WinFrog:	Heading, Depth, Altitude, Burial Depth
WinFrog Data String(s) Output to Device:	\$NORCLOG: shipHeading, shipLatDeg, shipLatMin, shipLatCode, shipLonDeg, shipLonMin, shipLonCode, rovLatDeg, rovLatMin, rovLatCode, rovLonDeg, rovLonMin, rovLonCode, ROVkp
WinFrog Data Item(s) and their RAW record:	ROV Data 496 Heading 410 Heading Output 910 Bottom Depth 411 Bottom Depth Output 911

DEVICE DESCRIPTION:

The NSCADA Data Logger is manufactured by Perry Trittech for use on sub sea vehicles such as trenchers, plows and ROV's. It outputs the relevant ship and ROV data to the DATALOGGER and the relevant ROV data to the WinFrog system. See Output descriptions above for more details on data output.

DEVICE CONFIGURATION INSTRUCTIONS

WINFROG I/O DEVICES > EDIT I/O:

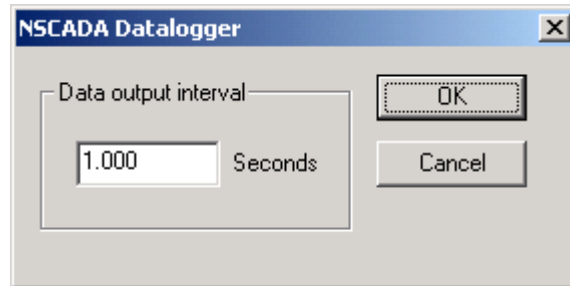
Serial
Configurable Parameters

WINFROG I/O DEVICES > CONFIGURE DEVICE:

The NSCADA Datalogger is added to WinFrog from the ROV device group. The **ROV REF VEH**, **ROV DATA**, **HEADING** and **BOTTOMDEPTH** data items are added to the system when the device is initiated.

The Depth, Altitude, Heading and Burial Depth are available in the Decoded Data of the I/O Device window.

By highlighting the NSCADA device in the I/O Device window, right-clicking and selecting Configure Device, the Data output interval for the NSCADA Datalogger can be changed, from the default value of 1 second to the appropriate interval.

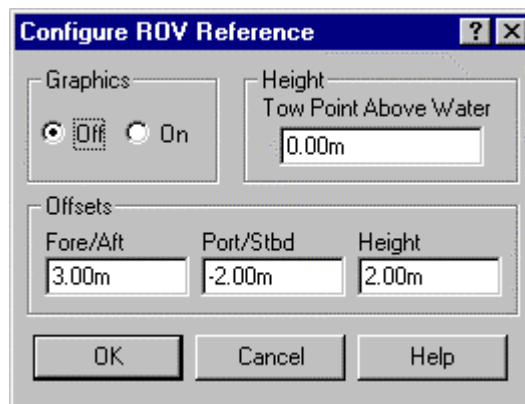


The NSCADA Datalogger can be positioned on the sub-sea vehicle using either a Towed Vehicle device, or acoustics. Refer to documentation on the Towed Vehicle, USBL or LBL device used for positioning the sub-sea vehicle.

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

The **ROV REF VEH** data item is added to the master vessel or ship. The **ROVDATA**, **HEADING** and **BOTTOMDEPTH** data items can be added to the sub-sea vehicle. This will permit logging of the raw data files, and will supply Ship and ROV position data, as well as the KP value, to the Datalogger. All of the data items can be edited from the Configure Vehicle-Devices dialog box.

Data item: ROV, NSCADA Datalogger, ROV REF VEH



Graphics:

Turning on the Graphics will display the device name and a square at the location of the 'ROV', within the Graphics and Bird's Eye windows.

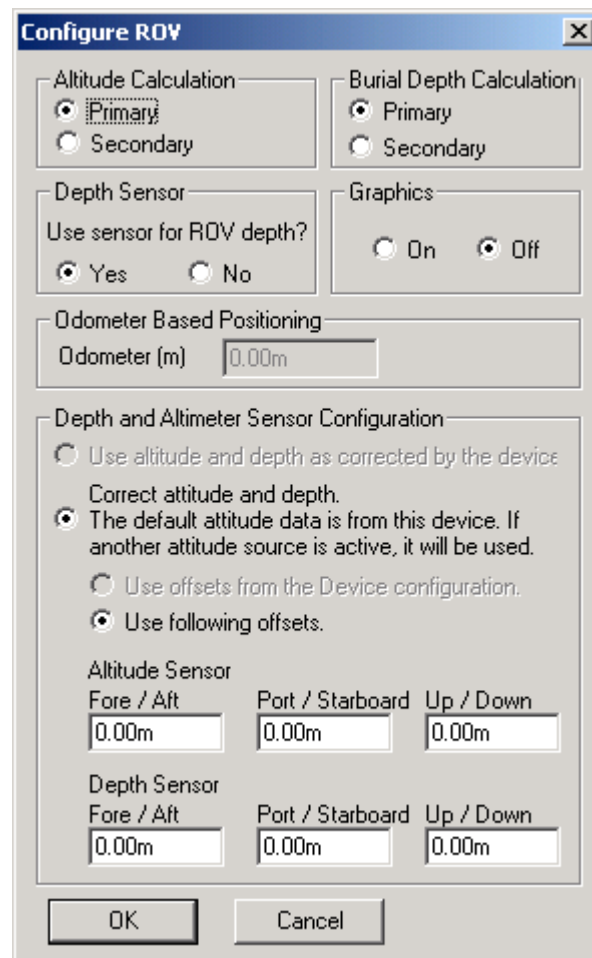
Tow Point Height:

The height of the tow point above water is added for layback calculations only if a towed vehicle model is used.

Offsets:

The X,Y,Z Offsets are applied from CRP to the Scanning Head Location. These values are set similar to values that would be applied to any device offset within WinFrog.

Note: It is advised to use the waterline as the vertical CRP reference when sub-sea positioning devices are employed.

Data item: ROV, NSCADA Datalogger, ROVDATAThe image shows a 'Configure ROV' dialog box with several sections. The 'Altitude Calculation' section has 'Primary' selected. The 'Burial Depth Calculation' section also has 'Primary' selected. The 'Depth Sensor' section has 'Use sensor for ROV depth?' set to 'Yes'. The 'Graphics' section has 'Off' selected. The 'Odometer Based Positioning' section has a text box for 'Odometer (m)' containing '0.00m'. The 'Depth and Altimeter Sensor Configuration' section has four radio buttons: 'Use altitude and depth as corrected by the device' (unselected), 'Correct attitude and depth.' (selected), 'Use offsets from the Device configuration.' (unselected), and 'Use following offsets.' (selected). Below these are two groups of three text boxes each, for 'Altitude Sensor' and 'Depth Sensor', with columns for 'Fore / Aft', 'Port / Starboard', and 'Up / Down', all containing '0.00m'. At the bottom are 'OK' and 'Cancel' buttons.

Configure ROV

Altitude Calculation
☒ Primary
☐ Secondary

Burial Depth Calculation
☒ Primary
☐ Secondary

Depth Sensor
Use sensor for ROV depth?
☒ Yes ☐ No

Graphics
☐ On ☒ Off

Odometer Based Positioning
Odometer (m) 0.00m

Depth and Altimeter Sensor Configuration
☐ Use altitude and depth as corrected by the device
☒ Correct attitude and depth.
The default attitude data is from this device. If another attitude source is active, it will be used.
☐ Use offsets from the Device configuration.
☒ Use following offsets.

Altitude Sensor
Fore / Aft 0.00m Port / Starboard 0.00m Up / Down 0.00m

Depth Sensor
Fore / Aft 0.00m Port / Starboard 0.00m Up / Down 0.00m

OK Cancel

Altitude Calculation/Burial Depth Calculation:

The altitude and burial depth calculations should be set to Primary if either is being used for real-time assignment to this vehicle.

Graphics:

Not used by this device.

Depth Sensor

Use sensor for ROV depth:

Yes will cause the depth of this vehicle's CRP to be determined from the observed depth value found in the string from this device plus the depth offset below. This vehicle's elevation will be the negative of the value above. This value will be used to calculate the bottom depth.

The bottom depth will be determined as:

Observed depth +Depth Offset + observed altimeter - altitude Offset

No will result with this device obtaining the depth of the CRP from the vehicle itself, as opposed to assigning it to the vehicle as above. The operator must assign another device to determine the depth of the vehicle (e.g. USBL and assigning it as the source for depth).

Odometer Based Positioning:

The odometer based positioning option is not used for this device.

Depth and Altimeter Configuration:

Altitude Offset is the distance between the altitude sensor and the CRP. Positive if the sensor is above the CRP.

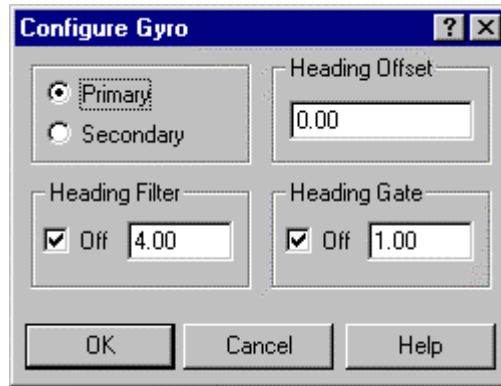
Depth Offset is the distance between the depth sensor and the CRP. Positive if the sensor is above the CRP.

The offset position will be corrected for pitch and roll then the vertical offsets will be applied to determine the depth and altimeter. If no pitch and roll corrections are required, enter 0 for the Fore/Aft Port/Starboard offsets but the Up/Down corrections will still be applied, unless they are 0.

The depth and altitude sensor offsets are used to determine the bottom depth, however the pitch and roll correction is not applied to these offsets when determining the bottom depth.

Data Item: ROV, NSCADA Datalogger, HEADING

The configuration of the Heading is accomplished using the Configure Gyro dialog box. The NSCADA Datalogger supplies a heading value for the ROV. You may wish to set this device to secondary, where the heading will be available for post processing, but not for real-time display.

**Heading Offset:**

If the gyro is reading low, a positive offset (correction) should be applied.

Heading Filter:

This value operates similar to the velocity filter in the Configure Vehicle-Devices dialog box. When 'on', the vehicles' heading value takes previous heading fixes into account – the number input in the Heading Filter Box - for a 'smoothed' heading display for the vessel.

Heading Gate:

When initiated, any heading deviations observed that are greater than the value input, will be disregarded.

Data Item: ROV, NSCADA Datalogger, BOTTOMDEPTH

Editing the BOTTOMDEPTH data item in the Configure Vehicle – Devices dialog box brings up the Configure Sounder dialog box.

Configure Sounder

Calculation: ☒ Primary ☐ Secondary

Graphics: ☐ Off ☒ On

Apply Tides: ☐ Yes ☒ No

Soundings for Profile

☒ Collect Data

Distance Interval: 25.00m

Interval Type: ☒ Along Line ☐ Actual Distance

☐ Purge RAM

Database Filename: no file

☒ Abort Saving Data Browse

☒ Display Soundings Data in Profile Window

Offsets

Fore/Aft: 10.00m Port/Stbd: 10.00m Depth: 0.00m

OK Cancel Help

Calculation:

Set the type of calculation to primary or secondary using the calculation radio buttons. A primary sounder will record data in the vehicles' raw data files (i.e. raw data type 300, 350, 351), where the secondary sounder setup will not. In either case the raw data will still be recorded under the 411 data type.

Graphics:

If the Graphics is turned on, a labeled square will show the raw (unfiltered) location of the sounder, in the Graphics and/or Bird's Eye windows.

Apply Tides:

If the On radio button is selected, WinFrog will apply tidal corrections to the observed depth data to enable the display and recording of chart datum referenced depths. Tide data can be received from an interfaced real time depth sensor or from tide prediction files containing time and tide height data. Note that the tide device or file must also be added to the vehicle's device list. Refer to documentation on the Tide device for more information.

Note: The Ribbit processing program uses the same tide format as WinFrog.

Soundings for Profile:

This section permits the collection of data for database logging separate from WinFrog and Ribbit. This database can then be used for numerous applications including real time display within the Profile window, or data collection for later display in the Profile window.

Data will be collected, at the **Distance Interval** stated, when the **Collect Data** checkbox is selected. The interval can be either **Along Line**, or at the **Actual Distance** (from last fix).

The data is stored in the RAM memory of the computer. Any data collected that will not be required at later time can be deleted by selecting the **Purge RAM** checkbox, and exiting the dialog by clicking the OK button.

A **Database Filename** can be chosen and the filename is displayed in this dialog. The **Abort Saving Data** checkbox can be selected if a problem occurs and you want to stop saving the data at that instance.

The **Display Soundings Data in Profile Window** checkbox can be selected if you want the data to be displayed in the Profile window, in real time.

Offsets:

The offsets for the individual transducer are input here. The standard Fore/Aft, Port/Starboard offset signage is used. The depth value is positive down. Rule of thumb suggests that the water line be used for the vertical datum.

Note: Presently the sounder offsets should be left out unless the Altitude and Depth sensors are in the same X, Y location. Post-processing the data, with an attitude (pitch and roll) sensor present on the ROV will provide more accurate water depths should the ROV be tilted.

CONFIGURATION DETAILS:

Refer to system documentation on the installation and hook up of this unit. Interfacing to this unit should only be performed by experienced personnel.