

<b>WinFrog Device Group:</b>	<b>PLOW</b>
<b>Device Name/Model:</b>	<b>PLOUGH D</b>
<b>Device Manufacturer:</b>	Tele Danmark International Tel: 45 42 52 91 11 Fax: 45 43 71 40 68
<b>Device Data String(s) Output to WinFrog:</b>	See Telegram Specification section below
<b>WinFrog Data String(s) Output to Device:</b>	None
<b>WinFrog Data Item(s) and their RAW record:</b>	PLOWDATA          490

**DEVICE DESCRIPTION:**

This driver is designed to read data from TeleDanmark’s Plough D device. Since the only data item created by this device is the PLOWDATA data item and it is used strictly for data transfer to WinFrog, other devices must be used to provide positioning for the plough.

***DEVICE CONFIGURATION INSTRUCTIONS***

---

**WINFROG I/O DEVICES > EDIT I/O:**

Serial  
Configurable Parameters

**WINFROG I/O DEVICES > CONFIGURE DEVICE:**

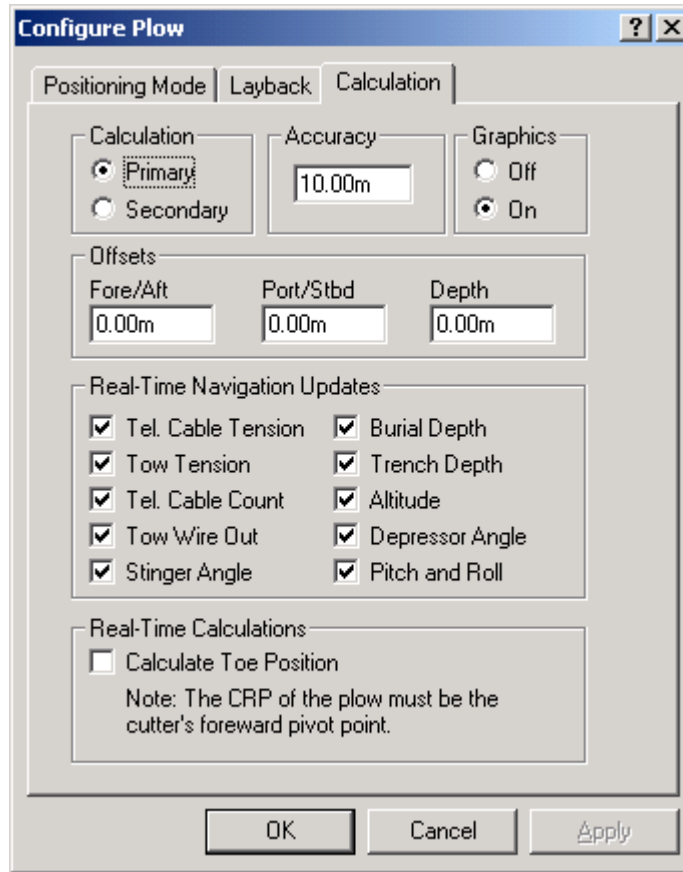
No configuration is required at the I/O Device window level.

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

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

**Data item: ROV, Plough D, PLOWDATA**

This data item would typically be attached to the Plough vehicle in WinFrog. Highlight this data item in the vehicle’s device list and click the Edit button to open the Configure Plow dialog box as seen below.



The Configure Plow dialog consists of three tabs. Since this driver only reads plough related data and is not used for positioning the plough vehicle, neither the Positioning Mode nor Layback tabs are used. However, the Calculation tab, shown above, must be configured for use.

***Positioning Mode tab***

Not used for this device.

***Layback tab***

Not used for this device.

***Calculation tab***

As mentioned above this device is not used for positioning the plough. The only function of this device is to read the relevant plow related data. Therefore, the only options that require configuration are the options available in the Real-Time Navigation Updates section of this tab.

### **Calculation**

**Primary/Secondary** – These options are used for plough positioning and are not used by this device. This data item must be added to the vehicle's device list to read, apply and record the relevant data, but this is independent of the Primary/Secondary setting.

### **Accuracy**

Not used for this device.

### **Graphics**

Select the On radio button to display a square in the Graphics and Bird's Eye windows.

### **Offsets**

Not used for this device.

### **Real-Time Navigation Updates**

Most Plow devices have the ability to provide real-time data updates via an umbilical. The Decoded data tab in the I/O Devices window will indicate what data is updated in real-time for each device. You should only select the checkboxes for data output by this device (i.e., tow tension and burial depth), as leaving the other checkboxes selected causes data to be assigned to the vehicle. If the device does not output a particular type of data, 0 will be assigned for each item left selected and this may cause values from other devices to be overwritten.

### **Real-Time Calculations**

Not used for this device.

## **TELGRAM SPECIFICATION:**

The data string from the Plough D device contains the following data;

field	data
1	port tow wire tension at the plow in kN
2	stbd tow wire tension at the plow in kN
3	as laid tension at the plow in kN
4	depressor height in cm
5	trench depth in m
6	pitch in deg
7	roll in deg
8	submerged depth in m water depth
9	umbilical tension at plow
10	port skid height in cm
11	stbd skid height in cm
12	plow heading in deg

- 13 altitude off bottom in cm
- 14 plough speed in cm/sec
- 15 plow dist travelled in m 'lay cable travel'
- 16 tow tension as measured at the ship in kN
- 17 tow wire out as measured at the ship in m
- 18 telephone cable tension at the ship in kN
- 19 cable burial in cm
- 20 tow force T