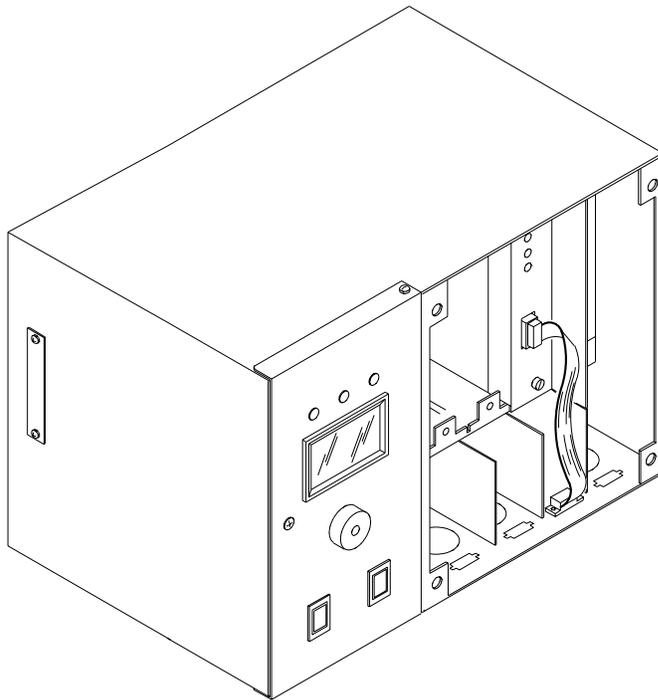


Pro *link*

Generic Tank Network Card Installation Manual



 **REDJACKET**[®]

Pro link **Fuel Management System**

RE260-336
Rev C
July '00

Generic Tank Network Card Installation Manual

RE260-336 ♦ Rev C ♦ July '00

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The Prolink has been approved by Underwriters Laboratories to carry the UL Listing Mark.

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The Marley Pump Company
500 East 59th St
Davenport, IA 52807 USA
319.391.8600

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About This Manual

This preface describes the organization of this manual, explains symbols, typographical conventions used, and defines vital terminology.

Organization

This manual is organized into three chapters, one appendix, and an index:

- Chapter 1:** Generic Tank Network Card Overview and Installation
- Chapter 2:** Connecting the Generic Tank Network Card
- Chapter 3:** Pathway Plus Setup
- Appendix A:** Replacement Parts
- Index:**

Typographical Conventions

Numeric Formats:	A numeric zero looks like 0 in this document. An uppercase letter “oh” is rendered as O.
	A numeric one looks like 1 in this document. A lowercase letter “el” is rendered as l. However, to prevent confusion, the abbreviation for milliliter includes a capital letter (mL).

Terminology

The following terms are used throughout this manual to bring attention to the presence of hazards of various risk levels, or to important information concerning use of the product.

DANGER!!

Indicates the presence of a hazard that **will** cause **severe** personal injury, death, or substantial property damage **if ignored**.

WARNING!

Indicates the presence of a hazard that **can** cause **severe** personal injury, death, or substantial property damage **if ignored**.

Caution

Indicates the presence of a hazard that **will** or **can** cause **minor** personal injury or property damage **if ignored**.

Notice

Indicates special instructions on installation, operation, or maintenance that are important but not related to personal injury hazards

Chapter 1: Overview and Installation

This Chapter Explains

- **Overview of the Generic Tank Network Card**
- **Installation Requirements**
 - The Generic Tank Network Card
 - Generic Tank Network Card Configuration Worksheet Information
- **Installation Procedures**

Overview of the Generic Tank Network Card

The Generic Tank network card provides the ability to connect a ProLink network to a Veeder / Root-tank gauging system to allow the network to read and store basic tank information. The specific information accessed by the Generic Tank network card includes inventory readings, deliveries, alarm conditions (including theft, high water, low product, and high product), and leak tests.

The Generic Tank card uses a RS232 DB9 serial connection to access this information from the Veeder / Root unit.

The Generic Tank network card differs from the Serial Link in that it is not a stand alone unit. It must be installed in a ProLink chassis. The Generic Tank network card does not have error, transmit (TX), or receive (RX) LEDs. This card also does not contain DIP switches. It provides jumper blocks to change the RS232 serial port to DCE configuration (JP1) and to enable the battery backup (JP2).

Installation Requirements

The Generic Tank Network Card

Requires an open network card slot in a ProLink chassis.

Generic Tank Network Card Configuration Worksheet Information

When installing the Generic Tank network card, the following information must be recorded.

- Card serial number
- Card date of manufacture
- Card neuron ID number
- Part Number
- Card chassis number
- Card slot number

This information should be entered on the Prolink Installation and Configuration Worksheet.
(WAF03) Refer to figure 1.1.

Prolink Installation and Configuration Worksheet Sample

Prolink Configuration Worksheet– SAMPLE

Chassis # _____		Slot 1	Network Card Type
Type of Network Card Installed		Generic Tank card _____	
		12/15/98 _____	Date Code
Neuron ID Number		123456789 _____	
		ABCDE12345678910 _____	Serial Number
		REXXX-XXX _____	Part Number
CHANNEL 1 PROBE/SENSOR TYPE		NONE _____	
CHANNEL 2 PROBE/SENSOR TYPE		_____	
CHANNEL 3 PROBE/SENSOR TYPE		_____	
Channel Probe/Sensor Type		_____	
<p>The Generic Tank network card does not have external channel connectors. This card receives information from its network connection to the Prolink chassis backplane board.</p>		_____	

Figure 1.1 Generic Tank network card required information

Installation Procedures

Installation in the Prolink Chassis

The following procedures should be followed when installing the Generic Tank network card in a Prolink chassis.

Step 1: Disconnect power to the Prolink chassis at the electrical service panel and the On/Off switch on the Prolink chassis power supply circuit board. Open the network card access panel and select an unused slot for installation (Refer to *figure 1.2*).

Step 2: Remove the card slot protective cover.

Step 3: Slide the Generic Tank network card into the selected slot. Note the orientation of the card in *figure 1.2*, the card can be installed in this position only. Ensure that the card connects completely with the backplane board. Tighten the two hold-down screws to fully secure the card in position.

Step 4: Punch out the DB9 knockout underneath the selected slot.

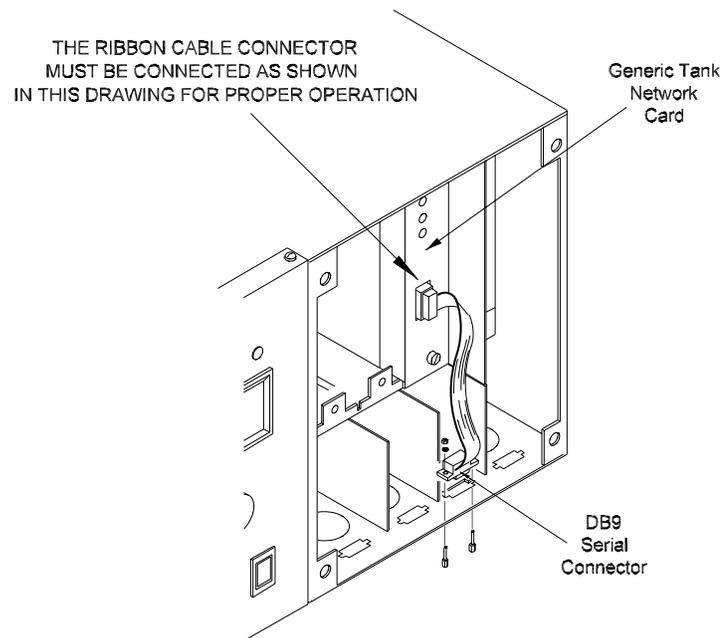


Figure 1.2 Generic Tank network card–DB9 connector installation

Notice

The short dividers in the lower section of the chassis may be removed for access, but **MUST** be reinstalled to maintain intrinsic safety and complete the installation.

Step 5: Place the ribbon cable DB9 connector in the knockout. Install and tighten the hex nuts to hold it in place.

Step 6: Reinstall the divider(s) in the lower section of the chassis (if removed for access) close and fasten the network card access panel.

Step 7: Connect the tank gauge to the DB9 connector.

Step 8: Reconnect power to the ProLink chassis.

Chapter 2: Connecting to the Generic Tank Network Card

This Chapter Explains

- Network Connections
- RS232 Connections

Network Connections

The Generic Tank network card is connected to the network through the Prolink chassis backplane board. This allows the Generic Tank network card to send data to other devices on the network.

RS232 Connections

The tank gauge will be connected to the DB9 male serial port on the bottom of the Prolink chassis. The Generic Tank network card RS232 port is shipped from the factory configured for DTE. All connections discussed in this manual assume that the Generic Tank card remains configured for DTE.

The Generic Tank network card can be changed to DCE by moving jumper block JP1 from the DTE to the DCE position, but this changes the context of the connector pins. Changing to DCE is comparable to adding a 'null modem' adapter.

DTE vs DCE Connector Pin Out

Pin #	DTE	Direction	Pin #	DCE	Direction
1	Carrier Detect (DCD)	In	1	Carrier Detect(DCD)	Out
2	Receive (RXD)	In	2	Transmit (TXD)	Out
3	Transmit (TXD)	Out	3	Receive (RXD)	In
4	Terminal Ready (DTR)	Out	4	Terminal Ready (DTR)	In
5	Signal Ground (SG)	---	5	Signal Ground (SG)	---
6	Modem Ready (DSR)	In	6	Modem Ready (DSR)	Out
7	Request to Send (RTS)	Out	7	Request to Send (RTS)	In
8	Clear to Send (CTS)	In	8	Clear to Send (CTS)	Out
9	Ring Indicator (RI)	In	9	Ring Indicator (RI)	Out

The Generic Tank network card currently uses pins 2, 3, 4, and 5. No 'loop-back' connections are necessary for the Generic Tank card to operate. Therefore, only three pins (2,3,5) need to be connected (three wire interface) to the tank gauge. Additional pins may be connected, but are ignored by the Generic Tank card.

In most cases standard off the shelf 'null modem' cabling can be used to connect the Generic Tank network card to the tank gauge. Many tank gauge manufacturers offer cables and connectors ready made to connect to a tank monitor which can be used. The tank monitor end of the cabling may be a DB25 male connector. If so, a DB25 female to DB9 female adapter will be necessary to connect to the Generic Tank network card.

Make sure that the adapter has screws or thumbscrews at the DB9 side so that a secure connection can be made.

In situations where cables and connectors are made up on site, here is the connection scheme:

Generic Tank network card		Tank gauge
TXD (Pin 3)	>	RXD
RXD (Pin 2)	<	TXD
SG (Pin 5)	<>	SG
Optional: DTR (Pin 4)	>	DSR or loop back connection

Any loop-back connections required by the tank gauge should be made on its end of the cable. Generic Tank network card DTR signal can be used to drive DSR or loop-back pins at the tank gauge.

Connecting the Generic Tank network card to a tank gauge

Before making the RS232 connections, make sure that the Prolink chassis AC power switch is in the OFF position (green power indicator is OFF). Consult appropriate documentation or manufacturer's technical support regarding cable specifications and connecting the tank gauge to other equipment (Generic Tank network card). Once connections are made and verified, turn the Prolink AC power switch to the ON position (green power indicator will be ON).

Notice

Pathway Plus must be used to configure and start the Generic Tank network card. The unit will not respond to a tank gauge until configured by Pathway Plus.

Typical system connections – Generic Tank network card direct to tank gauge

In this example, the tank gauge serial port is dedicated to the Generic Tank network card.

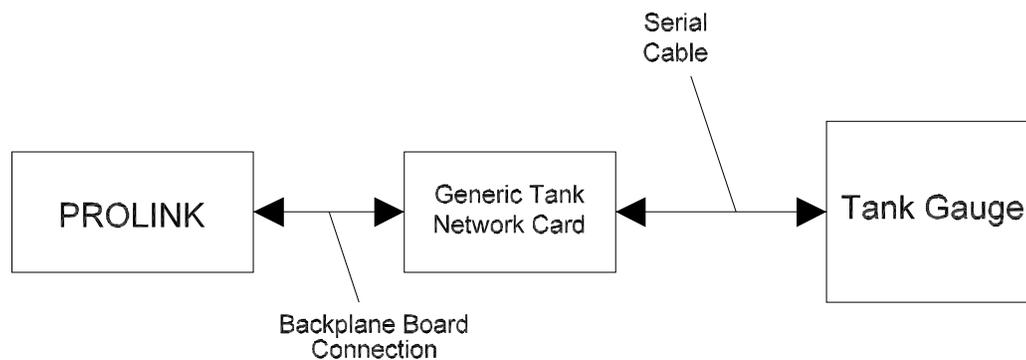


Figure 2.1 Prolink network to Generic Tank card to tank gauge

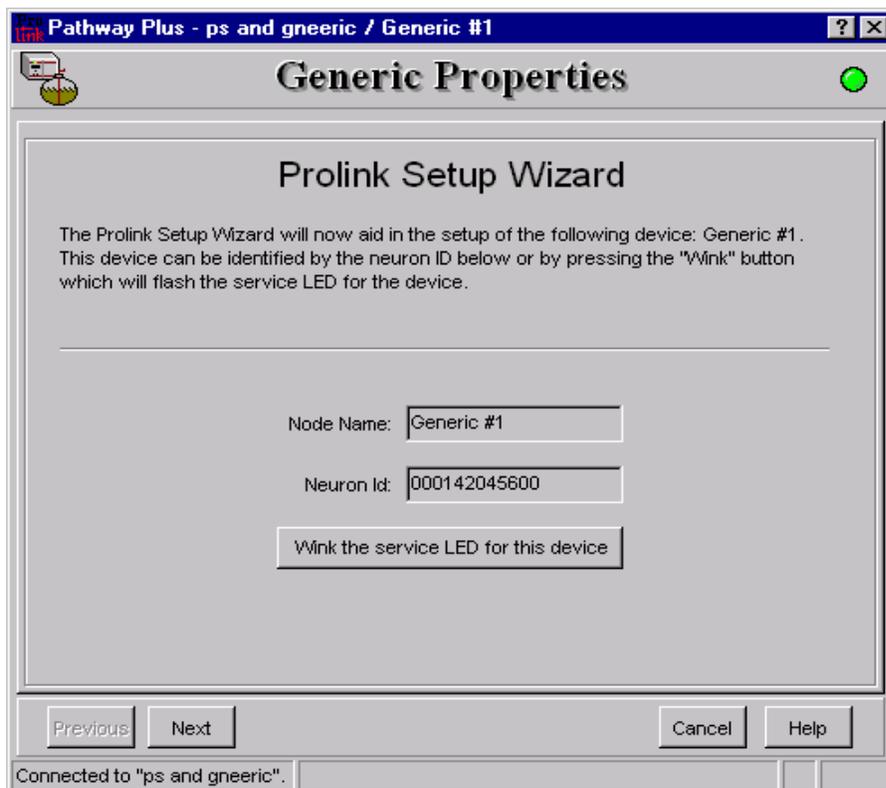
Chapter 3: Pathway Plus Setup

This Chapter Explains:

- Generic Tank Network Card Setup in Pathway
- Setup of the Node Object
- Setup of the Generic Tank Object

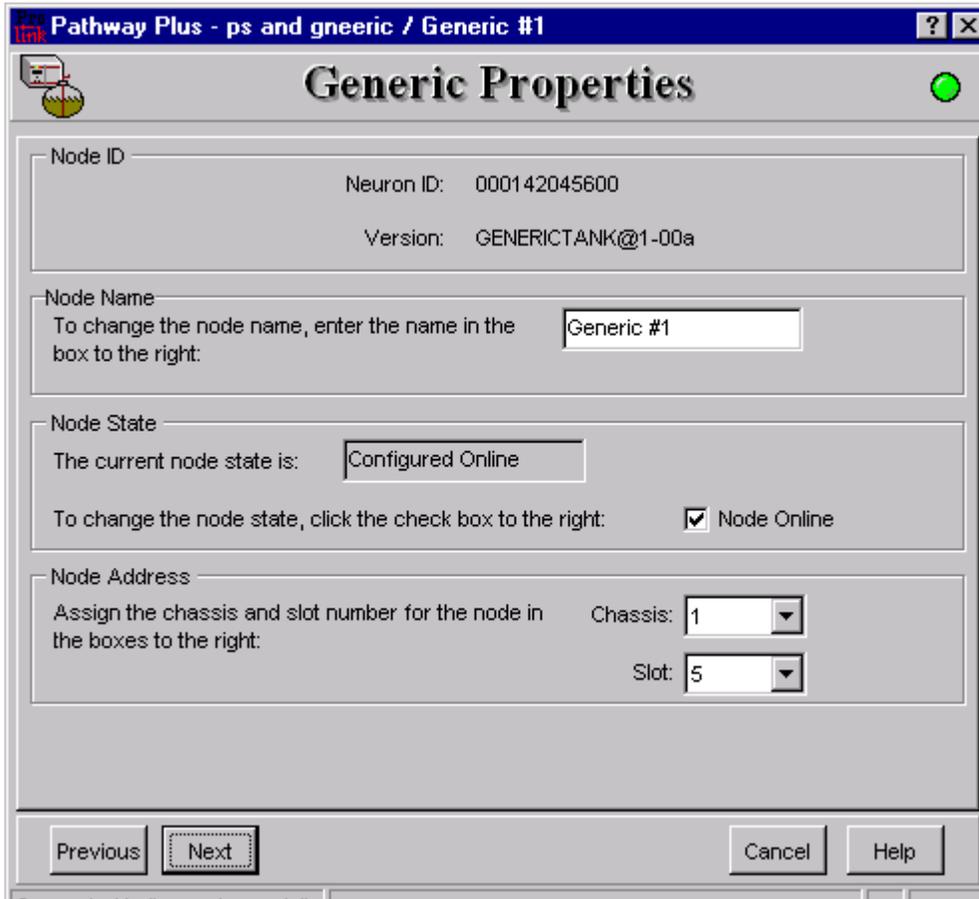
Generic Tank Network Card Setup in Pathway

Setup of the Node Object



Wink: Click on this button to blink the service LED on the node. This is helpful in situations where there is more than one network card of the same type installed in the same chassis. Blinking this LED will identify the specific card that is being configured.

The **node name** represents the current name of the card you will be working with. The **neuron id** is a permanent number, and it does not change.



Node ID: Neuron ID: The neuron ID is a read only field that contains a unique set of numbers and letters that identify the device. (No two Prolink devices have the same neuron ID) The neuron ID should match the printed label found on the device as well as the corresponding label on the configuration worksheet.

Node Name: Name: Each device has a default name assigned to it. If you want to change this name, enter it in this field. The name in this field will be displayed by Pathway Plus anywhere this node appears. (Max. of 12 characters)

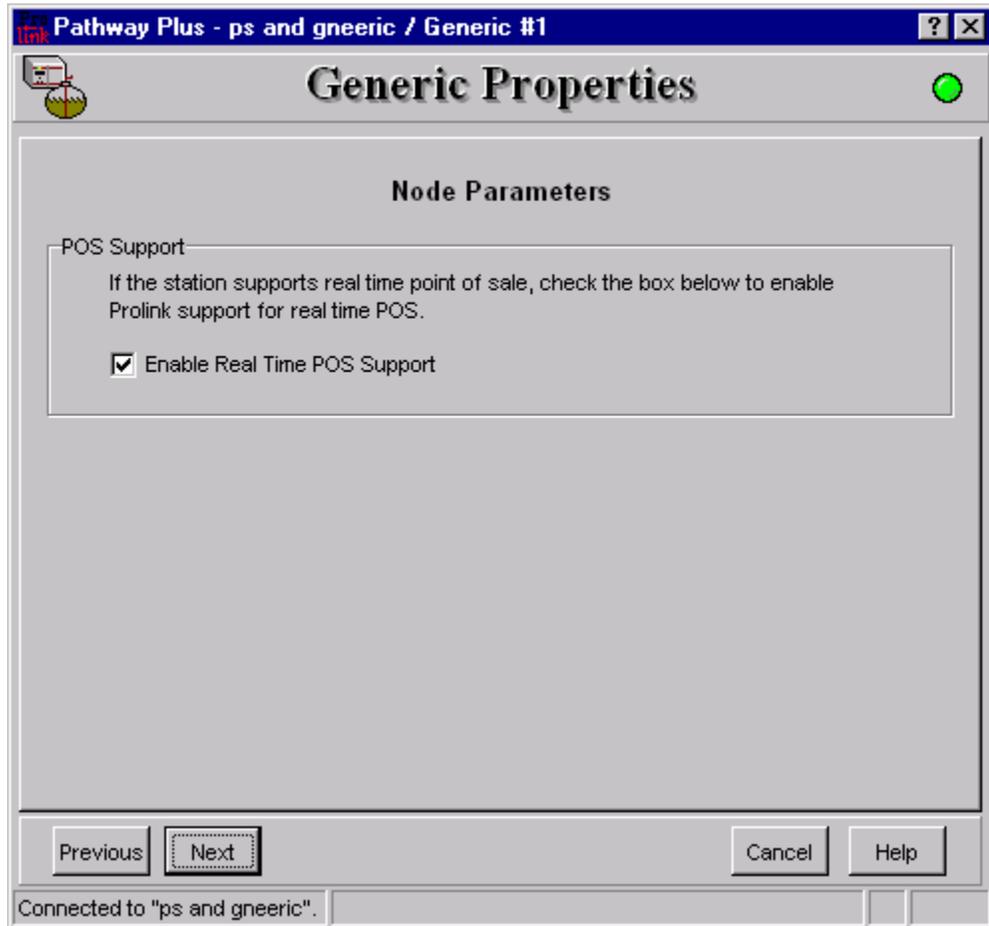
Node State: Current Node State: This is a read only field that shows the current node state.

Online Configured-This is the normal operating state. In this case the application is loaded, configured, and connected to the Prolink network.

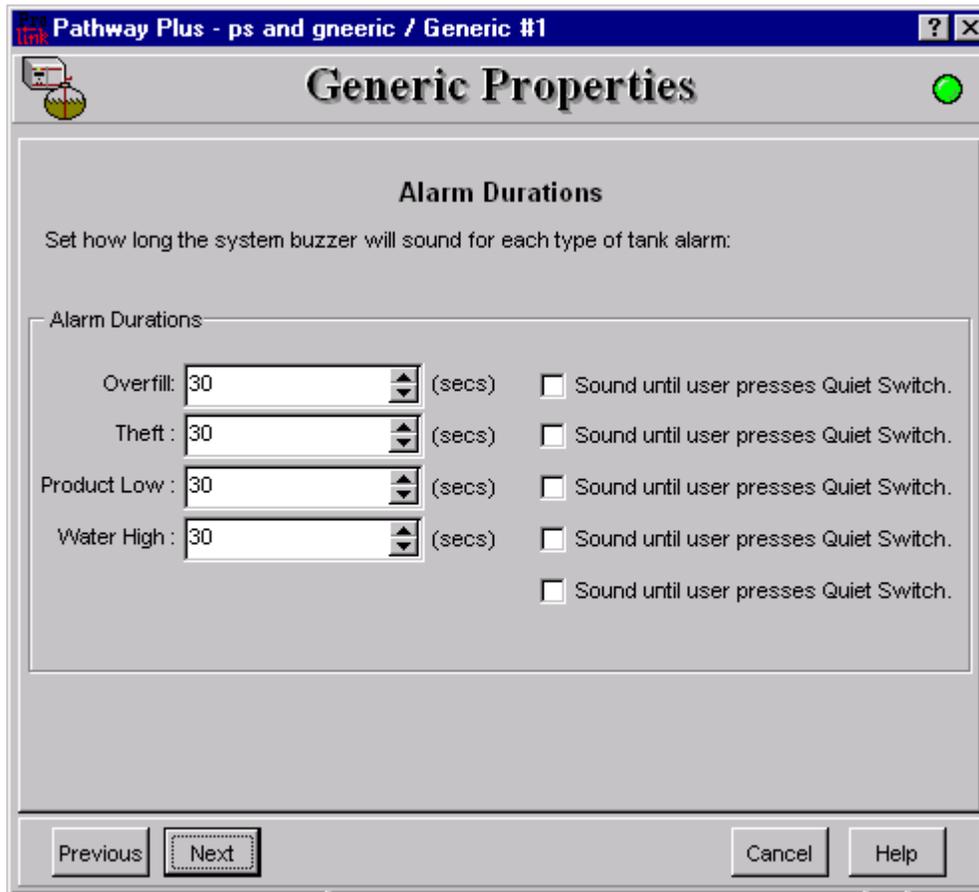
Soft Offline-In this case the application is loaded and configured, however the application is not running. This state would be used when performing service at the station to prevent this node from going into alarm. For example, a mag node would be taken offline to allow the mag probe to be pulled from the tank for inspection or replacement without sending an alarm to the network.

Node Online: In most cases this check box should remain selected. To take the node offline to allow service work to be performed at the station, uncheck this box.

Node Address: The address is used to identify which chassis and slot the card is in. It identifies the physical location.



POS Support: Check this box if the POS terminal type supports real time from the dispensers, i.e. totals can be read during the sale.



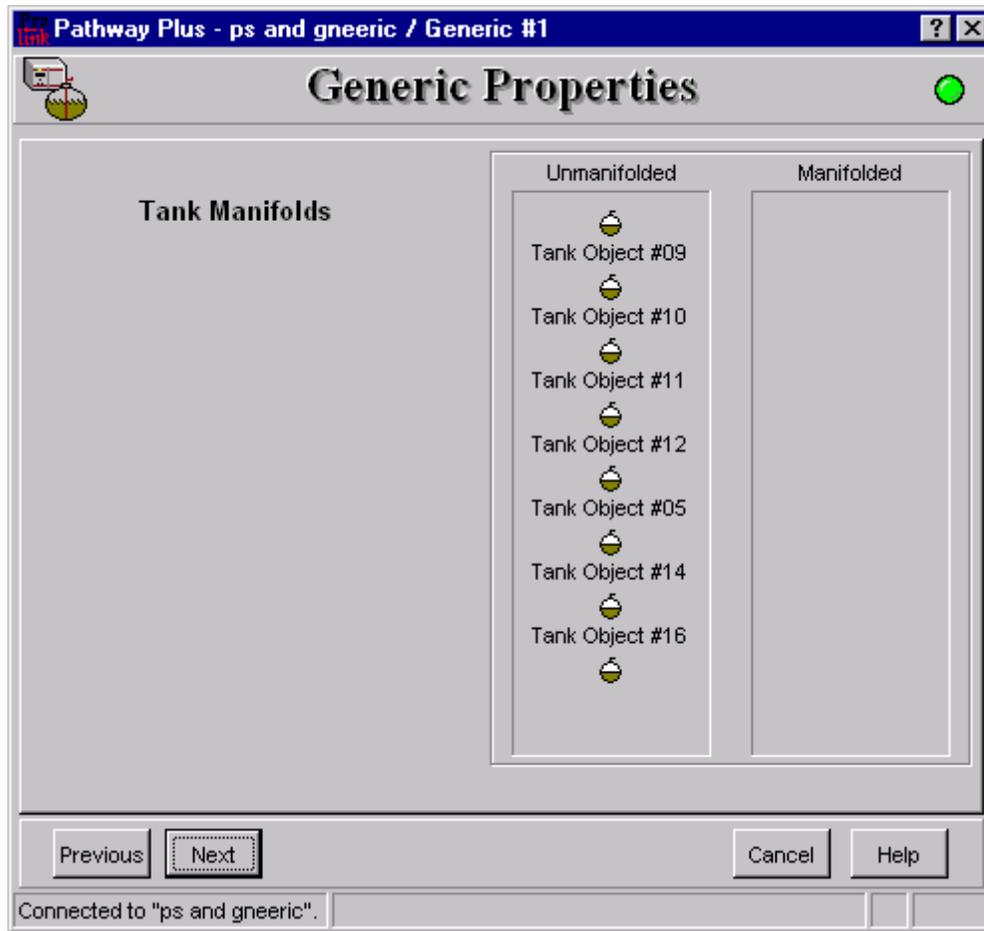
Overfill: Specify the number of seconds (0 to 254) that the piezo will sound on an overfill condition.

Theft: Specify the number of seconds (0 to 254) that the piezo will sound on a theft condition.

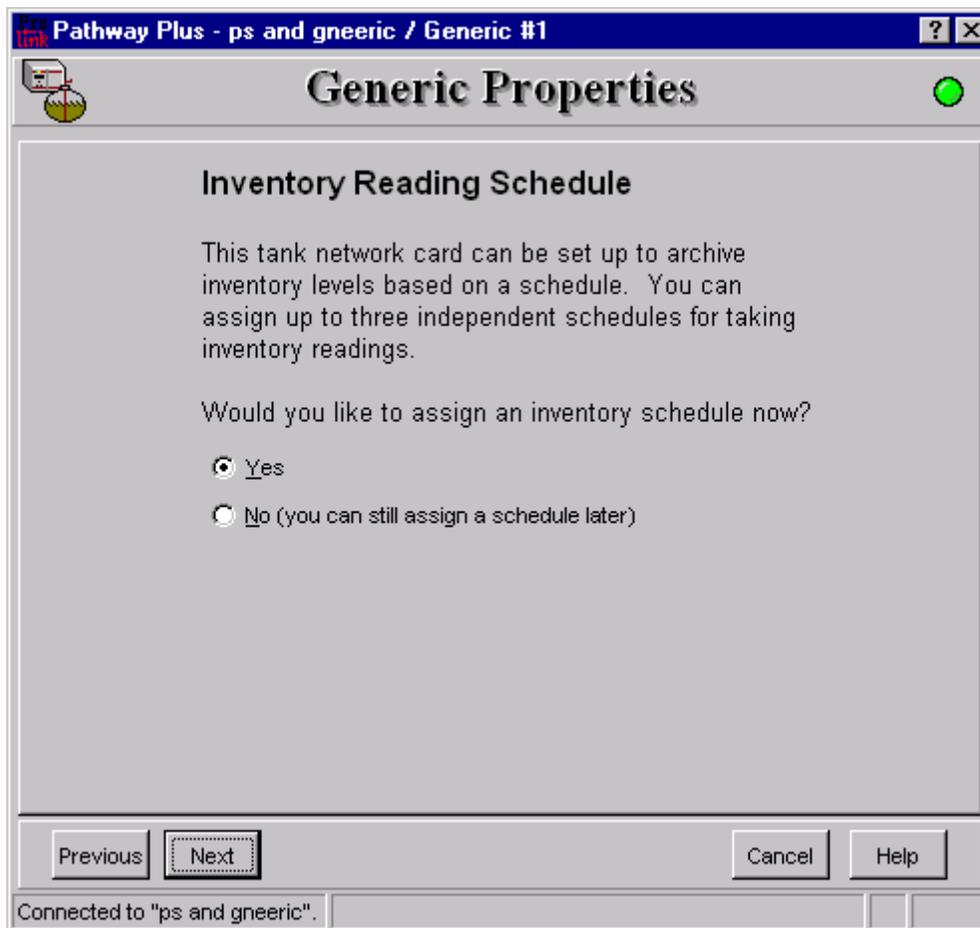
Product Low: Specify the number of seconds (0 to 254) that the piezo will sound on a low product condition.

Water High: Specify the number of seconds (0 to 254) that the piezo will sound on a highwater condition.

If the checkbox is checked, the piezo will sound indefinitely until the user acknowledges the alarm by pressing the 'Quiet' button on the Prolink Annunciator panel.

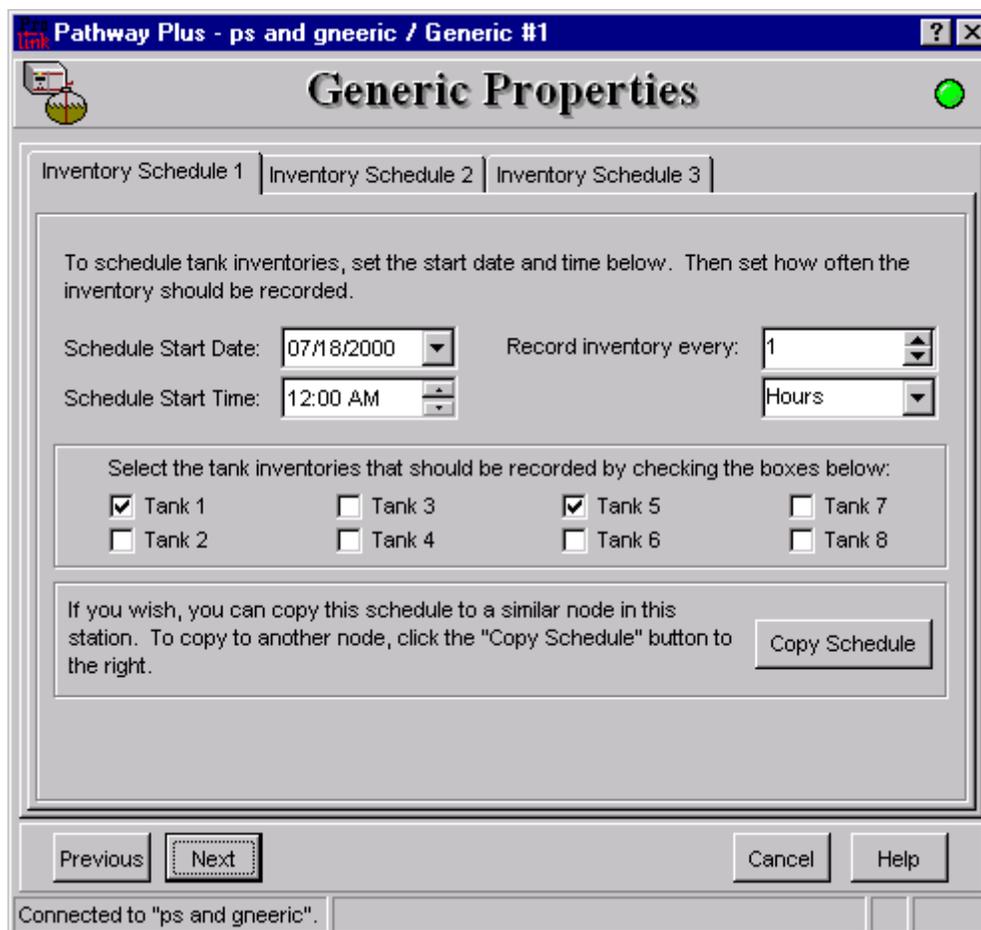


The tank manifold information is a read only screen. The tank manifolds as setup in the tank gauge will be displayed. To change these manifolds please refer to the manual for your tank gauge.



This is where the user has the choice of assigning an inventory schedule or not. This card can be set up to archive inventory levels based on a schedule. The user can assign up to three independent schedules for taking inventory readings.

Note that this is for storage only. To schedule the printout of local reports on site, set up this schedule through the printer network card/printer serial link dialog boxes.



Inventory Schedule #1:

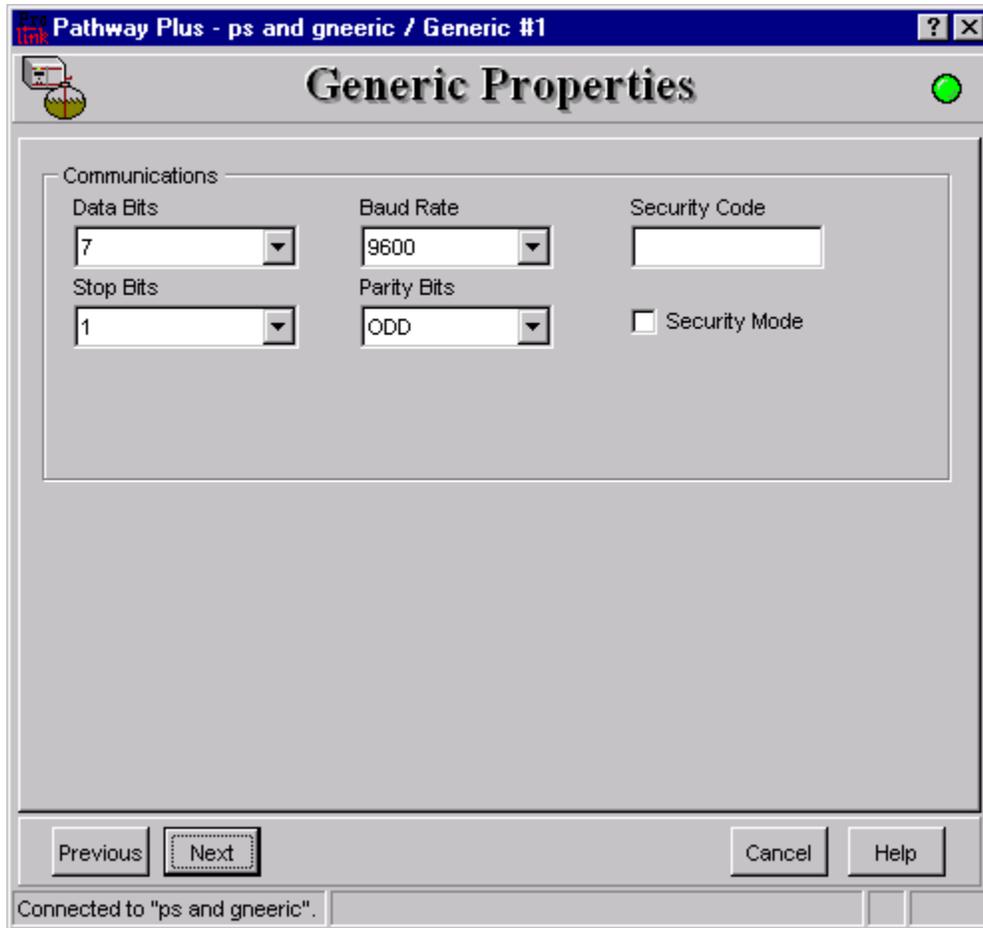
Schedule Start Date: The user can set the date of when they want inventory to begin.

Schedule Start Time: The user can set the time of when they want inventory to begin.

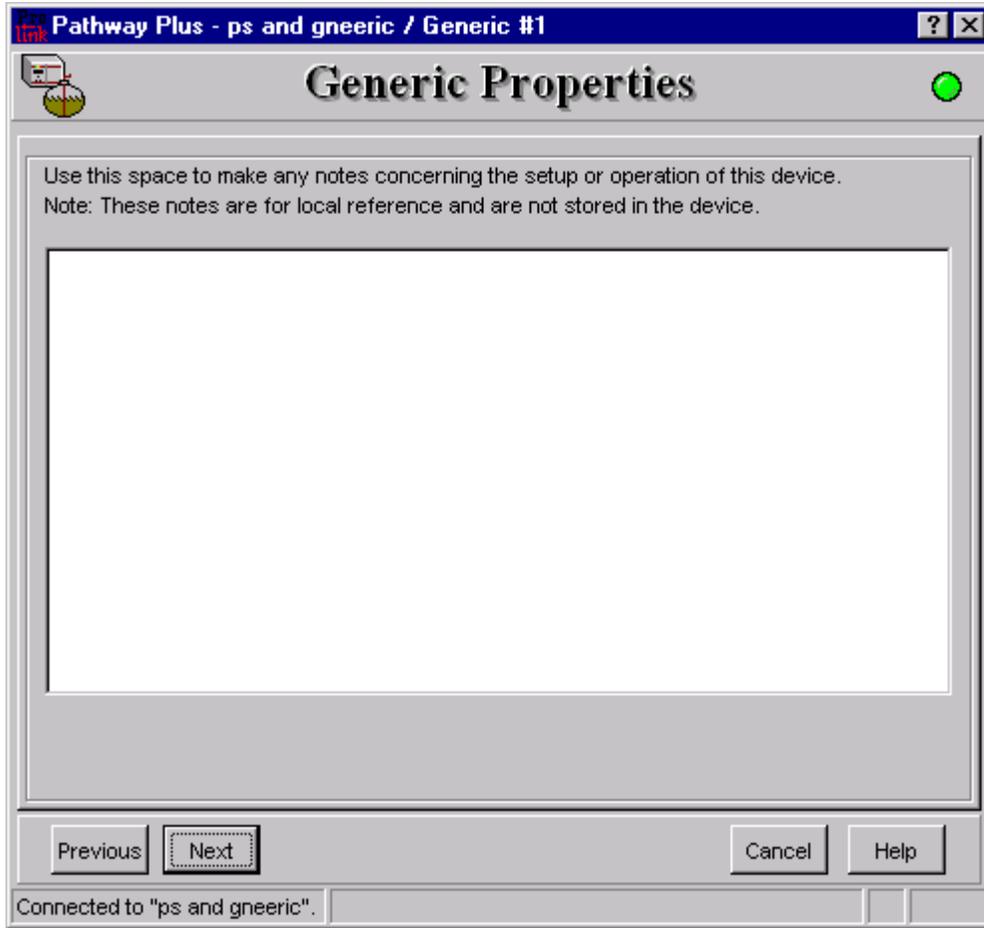
The user also has the choice of how often they want inventory checked. You can make this decision by putting your choice in the 'record inventory every' selections boxes.

The user also has the ability and option to choose which tank inventories should be recorded by checking the boxes that apply.

Copy Schedule: Allows the user to copy this schedule to a similar node in this station. To copy another node, click on 'Copy Schedule.'

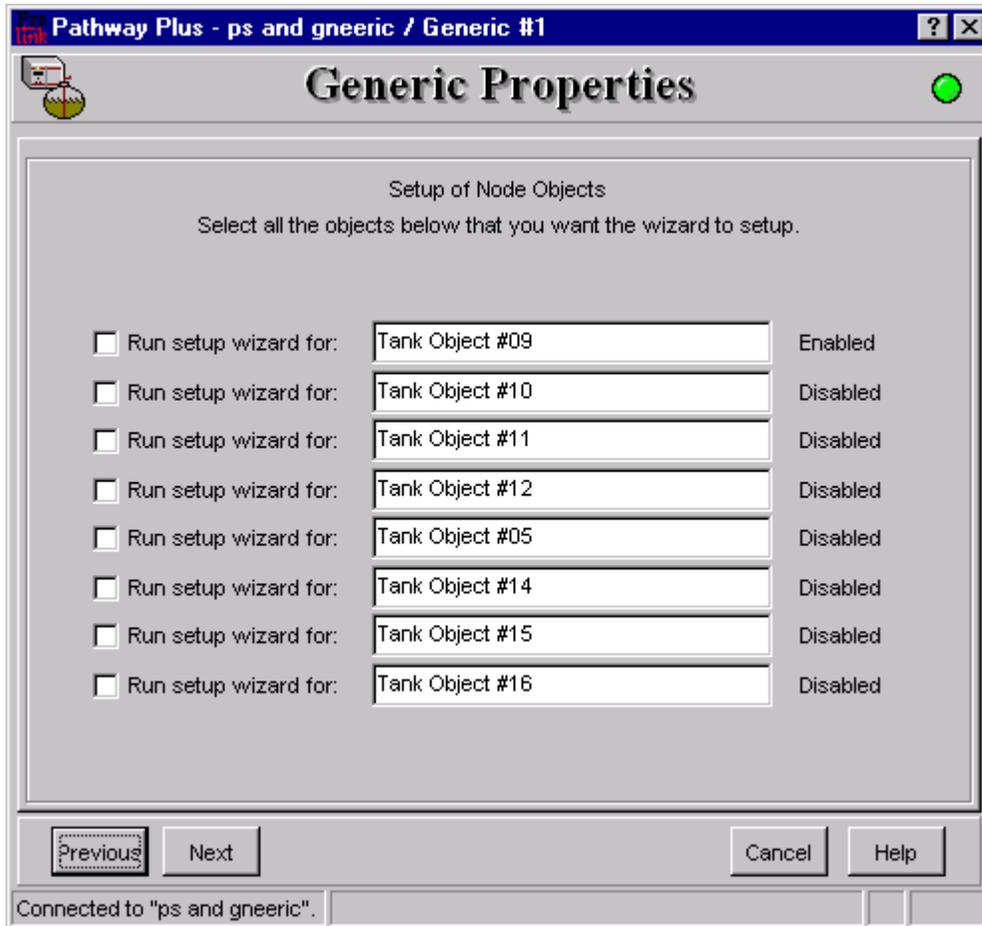


This screen allows the user to select the communications parameters of the tank gauge. The default settings are 9600 baud, 7 data bits, 1 stop bit and odd parity. It may be necessary to change these depending on the tank gauge used. Please consult the tank gauge manual for the proper settings. The security code is an optional six digit numerical code used by some tank gauges. If needed fill in this code and select security mode.

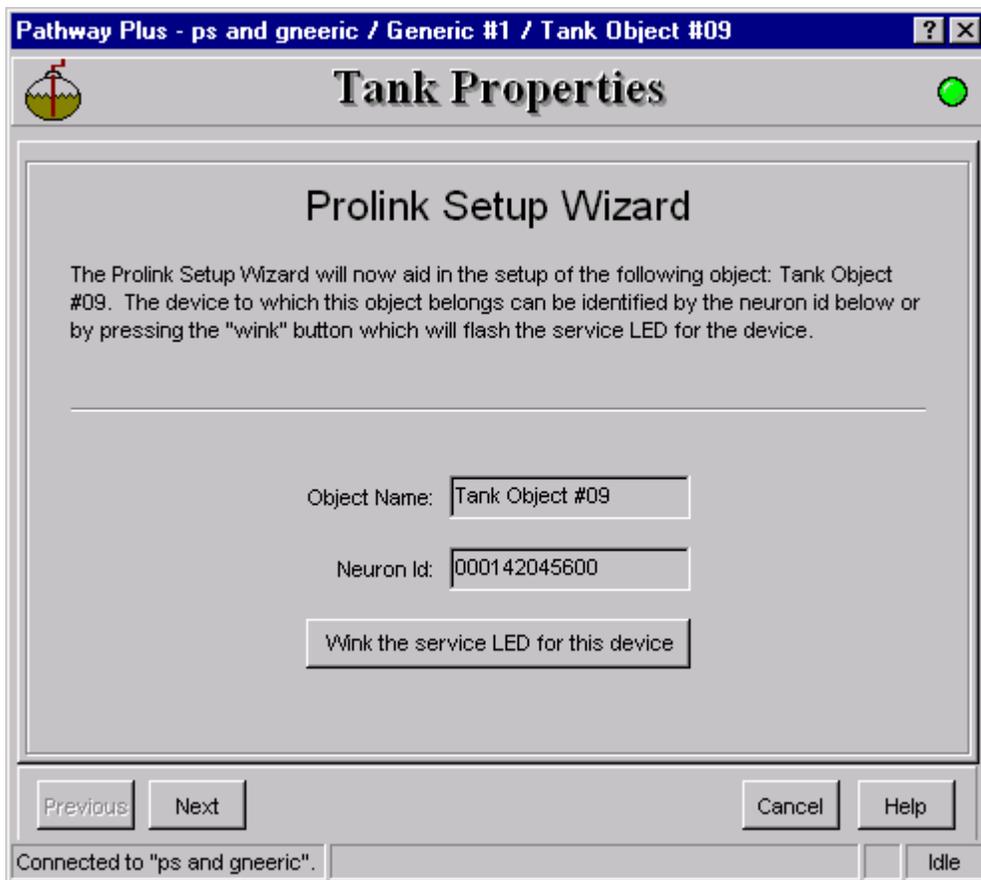


This is the user's opportunity to make any notes to have for future reference. The notes from the dialog above are locally stored on the PC in Pathway Plus, and do not get stored to the station.

Setup of the Generic Tank Objects

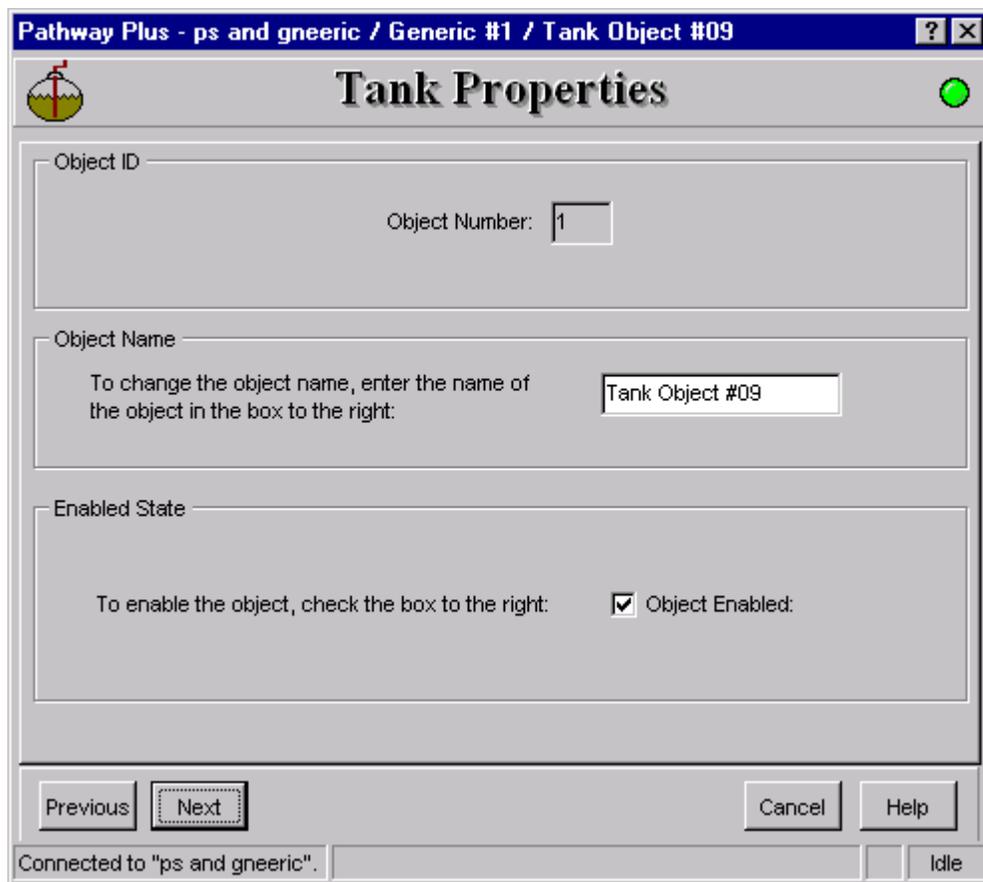


This section allows the user to select which type of objects that they want the Prolink Setup Wizard to configure at this time.



Wink: Click on this button to blink the service LED on the node. This is helpful in situations where there is more than one network card of the same type installed in the same chassis. Blinking this LED will identify the specific card that is being configured.

The **object name** represents the current name of the device you will be working with. The neuron id is a permanent number, and it does not change.



Pathway Plus - ps and gneeric / Generic #1 / Tank Object #09

Tank Properties

Object ID

Object Number:

Object Name

To change the object name, enter the name of the object in the box to the right:

Enabled State

To enable the object, check the box to the right: Object Enabled

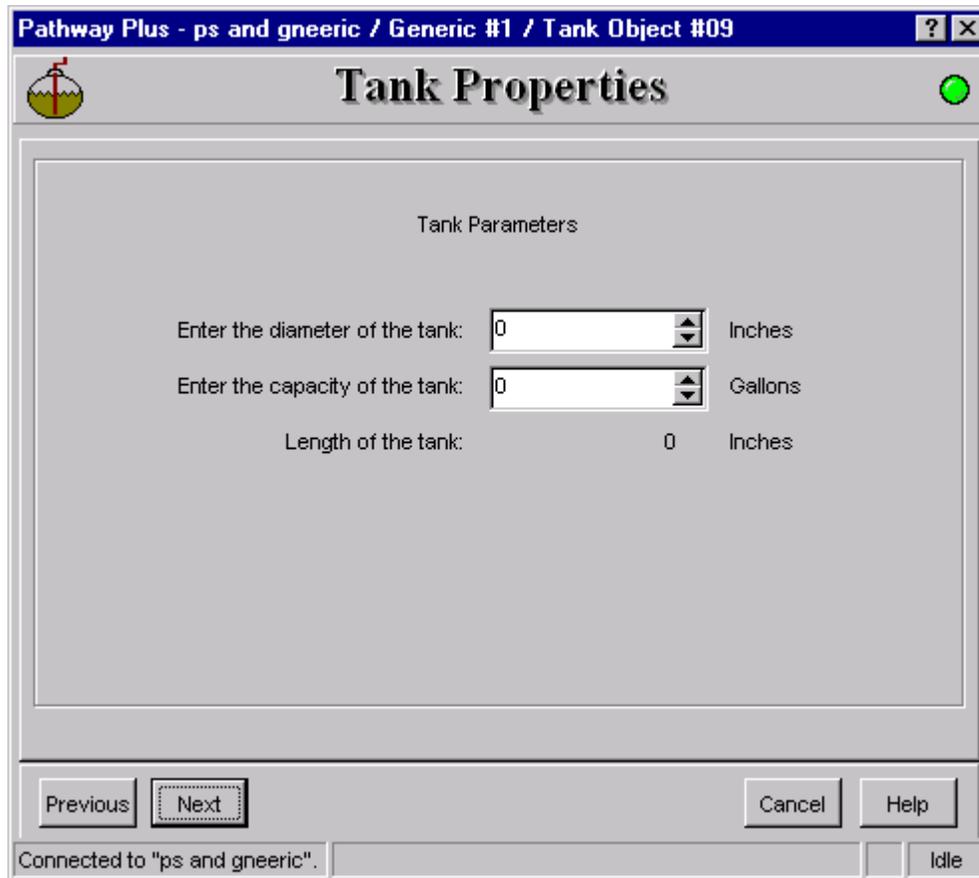
Previous Cancel Help

Connected to "ps and gneeric".

Object ID is uniquely identified by the specific object by number in this screen. The Object ID property indicates which object is open for configuration or setup, and is a read only field.

Object Name displays the name of the object. This field may be changed (max. 12 characters) or left at default.

Enabled State box must be 'checked' to enable operation of the tank.



Pathway Plus - ps and gneeric / Generic #1 / Tank Object #09

Tank Properties

Tank Parameters

Enter the diameter of the tank: 0 Inches

Enter the capacity of the tank: 0 Gallons

Length of the tank: 0 Inches

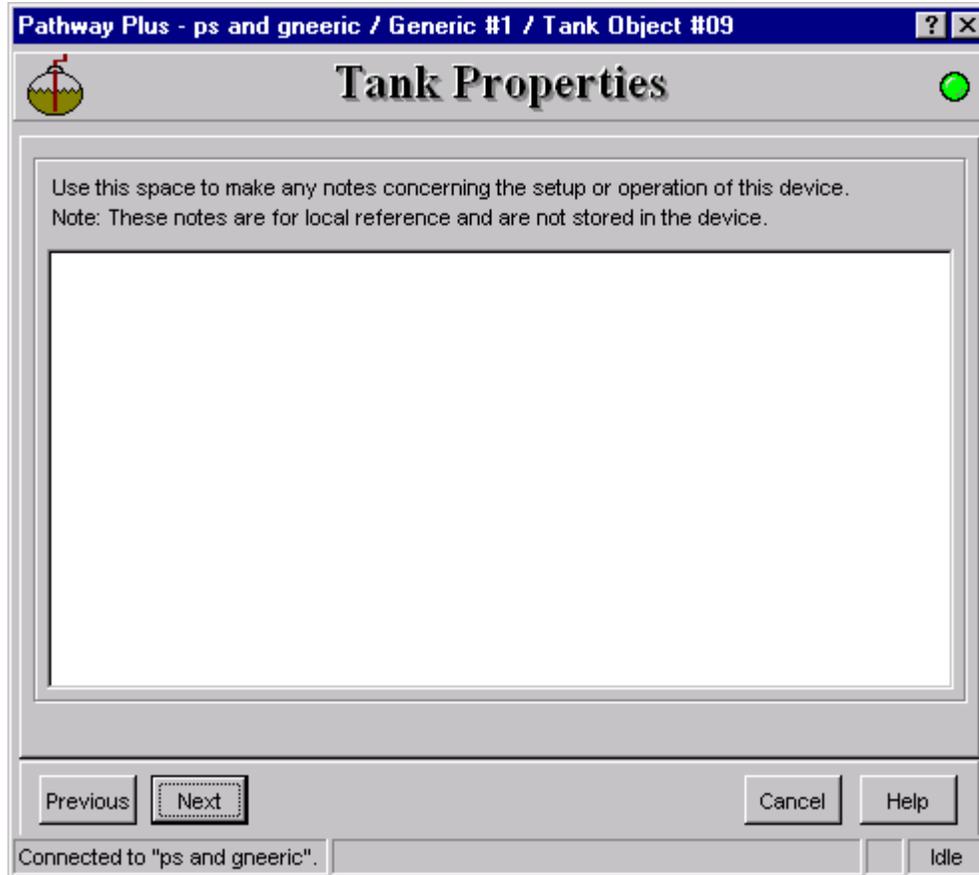
Previous Next Cancel Help

Connected to "ps and gneeric". Idle

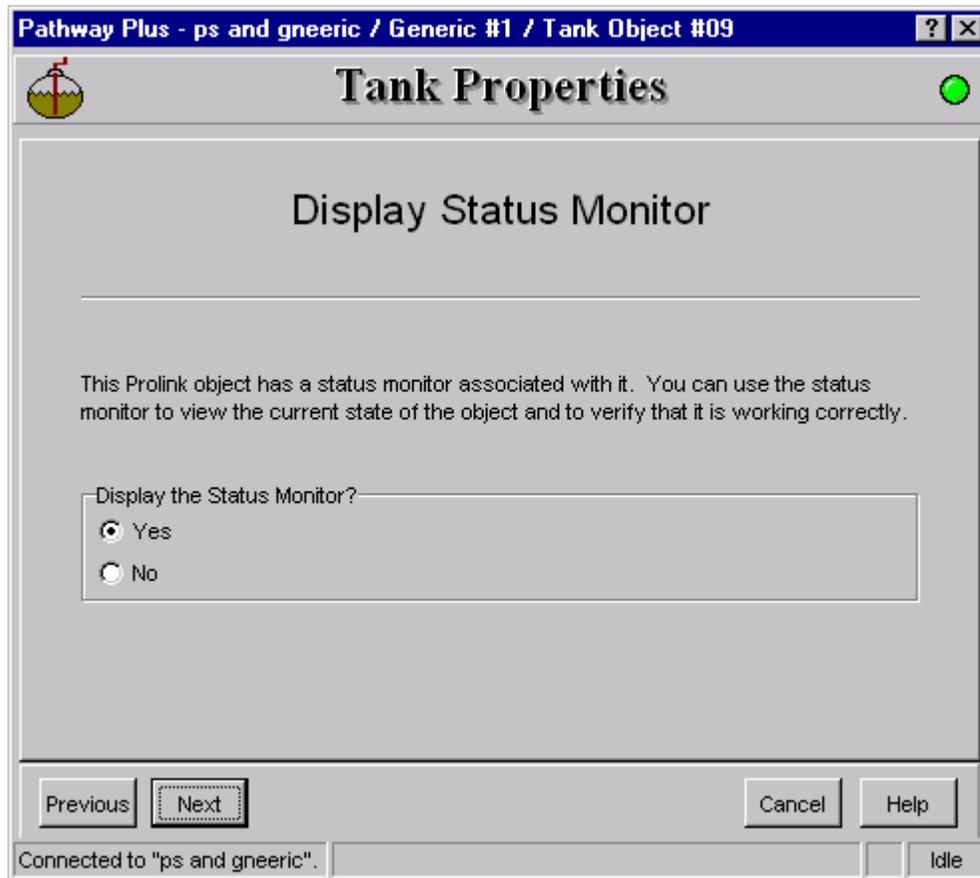
The tank diameter, capacity and length are read only. Changing these items must be done using the tank gauge setup procedure. Please consult the tank gauge manual for more information.



The fuel type is also a read only item. To change the fuel type you must use the setup of the tank gauge. Please refer to the tank gauge manual for more information.



This is the user's opportunity to make any notes for future reference.



Selecting yes will display the status monitor for the tank object. If everything is setup properly you will see tank levels, temperature, etc. If these don't look right you will need to review the setup.

Appendix A: Replacement Parts

Part Number	Description
RJ400-746-5	Generic Tank Network Card
RJ400-679-5	KIT, PCC-10 Network Adapter
RJ400-692-5	PCLTA-10 Network Adapter Kit
RJ400-772-5	PCLTA-20 Network Adapter Kit
RJ350-158-5	Cable, DB9 to DB25-Null Modem
RJ350-159-5	Cable, DB9 to DB9-Null Modem
RJ350-160-5	Cable, DB9 to DB9-Straight
RJ350-151-5	Cable, DB9 to DB25-Straight (modem)
RJ400-634-5	Modem Kit, High Speed
RJ400-636-5	Modem Kit, High Speed, with Call Router
RJ400-633-5	Modem Kit, Low Speed
RJ400-635-5	Modem Kit, Low Speed, with Call Router
RJ350-157-5	PCC-10 Network Cable
RJ350-161-5	Cable, PCC-10 Network to Fly-wire Adapter

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