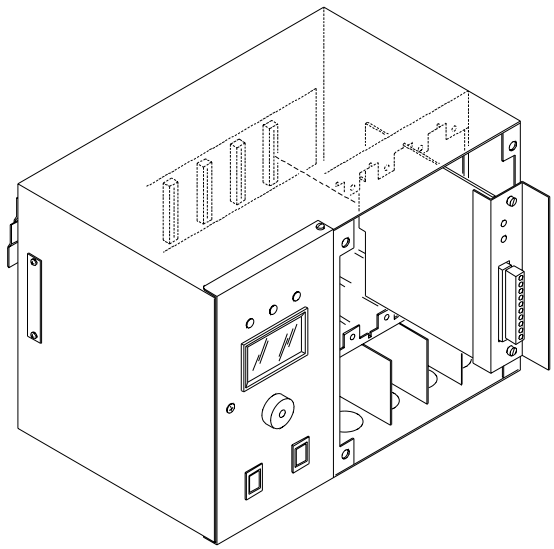
Prolink

Pump Sense Network Card Installation Manual



REDJACKET

Prolink Fuel Management System

RE260-350
Rev B
July '00

Pump Sense Network Card Installation Manual
RE260-350 • Rev B • July '00

Certifications and Listings

Marley Pump Company is ISO 9001 certified.

Red Jacket's Prolink has been approved by Underwriters Laboratories to carry the UL Listing Mark.
Red Jacket's Prolink has been approved by Underwriters Laboratories of Canada to carry the ULC Listing Mark.

Trademarks
The logos for Red Jacket and Marley Pump are property of The Marley Pump Company. Extracta and Trapper are trademarks of The Marley Pump Company. The UL logo is property of Underwriters Laboratories Inc. Other trademarks that appear in this manual include Belden, Celcon, Durabar, Echelon, LonWorks, Scotch-Cast, Spiralock, Teflon, and Viton.

Marley Pump
A United Dominion Company

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

TABLE OF CONTENTS

LIST OF FIGURES

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, an appendix and an 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 “ell” 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: Before You Start

This Chapter Explains:

- **Intrinsic Safety**
- **Installation DOs and DON'Ts**

Intrinsic Safety Information

ATTENTION INSTALLER

READ THIS IMPORTANT SAFETY INFORMATION BEFORE BEGINNING WORK

Portions of this product will be installed and operated in the highly combustible environment of a petroleum product storage tank. It is essential that you carefully read and follow the warnings and instructions in this manual to protect yourself and others from serious injury, explosion, electrical shock, or death.

DANGER!!	**All installation and programming of Red Jacket Prolink enclosures should be performed by factory trained personnel only. Before beginning any installation procedure, carefully read and understand all instructions.** **Failure to follow these guidelines can result in severe personal injury, death, or substantial property damage. Retain a copy of this manual on site with the Prolink enclosure system as required by EPA regulations in paragraph 40CFR 280.45. Installations must comply with section 504, article 300 of the N.E.C. which defines intrinsic safety.**

Precautions must be taken in the installation of this product to limit power in the wiring to the fuel tanks and to keep that wiring physically separated from any other wiring (intrinsically safe).

Caution	It is your responsibility to maintain the effectiveness of the safety features by installing this product in accordance with the instructions and warnings that follow. Failure to do so could create danger to life and property and will result in voiding all warranties connected with this product.

Installation DOs and DON'Ts

Caution	Failure to follow these guidelines could result in severe personal injury, death, or substantial property damage.

DOs

The following list represents the **DOs** for installing the Pump Sense network card. Please read through this list before beginning the installation.

- DO plan all conduit or direct-bury runs and contractor's box installations before mounting the Prolink main data chassis.
- DO install the system to meet the National Electric Code (section 504, article 300); federal, State, and local codes; and any applicable safety regulations.
- DO disconnect all power before making final connections.
- DO maintain intrinsic safety. Sensor wires must be separated from all other non-intrinsically safe wiring. Install the safety tag on all intrinsically safe contractor's boxes.
- DO use Red Jacket recommended interconnect cable for conduit or direct bury applications. See table in Appendix A: Parts List.
- DO observe proper conduit access into the Prolink enclosure.
- DO mount the Prolink main data chassis in a dry, climate controlled environment.
- DO hardwire Prolink to a dedicated, isolated, circuit breaker.
- DO print all setup reports and store them on-site (after final programming is complete).
- DO install a station ground rod (if one is not present) and verify that it is connected to the Prolink main data chassis.

Warning!	Failure to verify this ground connection CAN cause SEVERE personal injury, death, or substantial property damage.

Notice	Failure to comply with these installation requirements will void product warranty.

DON'Ts

The following list represents the **DON'Ts** for installing the Pump Sense network card. Please read through this list before beginning the installation.

- *DON'T* short circuit the power supply.
- *DON'T* handle the Pump Sense network card or other circuit boards without proper grounding straps.
- *DON'T* allow unauthorized field service personnel to work on the internal circuits of Prolink or the Pump Sense network card. Unauthorized work will adversely affect the intrinsic safety of the system and void product warranty.
- *DON'T* run any other lines or power devices through the Prolink enclosure. The ProLink main data chassis is a low-voltage device.
- *DON'T* hammer the cable into the sawcut.
- *DON'T* drill any holes in the Prolink enclosure.
- *DON'T* pull inventory sensor wires more than 1,000 feet maximum from Prolink .
- *DON'T* use cold water pipe as earth ground.
- *DON'T* cross barriers of low voltage with high voltage wire.
- *DON'T* cross phase controller with product relays.

Chapter 2: Installation

This Chapter Explains:

- **Pump Sense network card introduction**
  - Installation Requirements
- **Installation Procedures**
  - Pump Sense network card configuration worksheet information

Pump Sense Network Card Introduction

The Pump Sense network card functions as the interface between the Prolink network and the dispensers. It has the eight dispenser input terminals. This card can detect signals from the dispensers and relay them to the Prolink network.

Connections for the dispenser signal are made on the front faceplate of the Pump Sense card. The connectors for dispenser input signals are numbered consecutively from the top (1-8) (Refer to *figure 2.3*). The service pin and LED are located at the top of the card faceplate (Refer to *figure 2.2*).

Installation Requirements

The Pump Sense network card requires an open slot in a Prolink chassis or add-on chassis.

Configuration of the Pump Sense network card is accomplished using Pathway Plus.

One significant difference between the Pump Sense card and most other network cards is that the connecting wiring coming into the front faceplate of this card **IS NOT** intrinsically safe.

This makes it imperative that the lower dividers between the Pump Sense card and other network cards must be installed before power is applied to the Prolink chassis.

Notice	The Prolink main data chassis power MUST be connected in the same phase as the dispensers in order for the Pump Sense network card to detect the dispenser signal.

Installation Procedures

Installation in the Prolink Chassis

The following procedure demonstrates how to install the Pump Sense network card into any open slot in the Prolink main data chassis.

Step 1: Disconnect power to the Prolink main data chassis at the electrical panel and the On/Off switch on the Prolink main data chassis power supply circuit board (Refer to figure 2.1). Open the network card access panel and select an open slot for installation (Refer to figure 2.2).

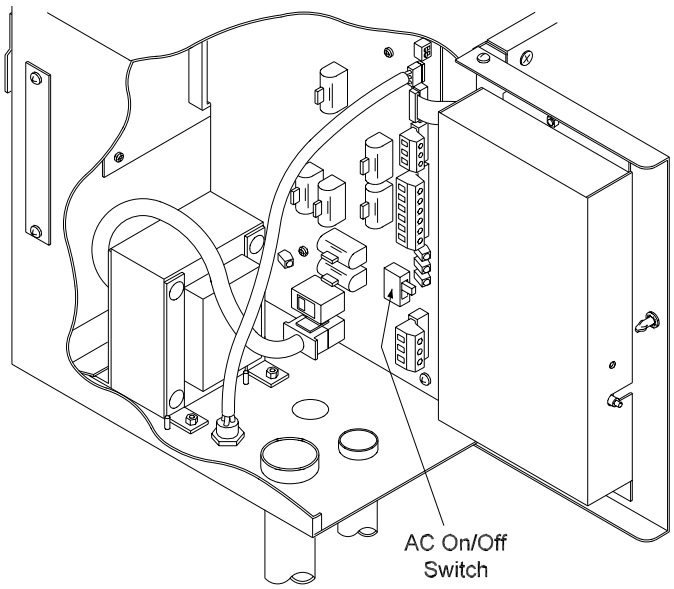


Figure 2.1 Prolink Chassis On/Off Switch

Step 2: Remove one of the conduit knockouts underneath the selected slot and install a conduit connector and conduit.

DANGER!	**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.** **Failure to reinstall the lower dividers constitutes a hazard that CAN cause SEVERE personal injury, death, or substantial property damage IF IGNORED.**

Step 3: Remove slot cover from the selected slot.

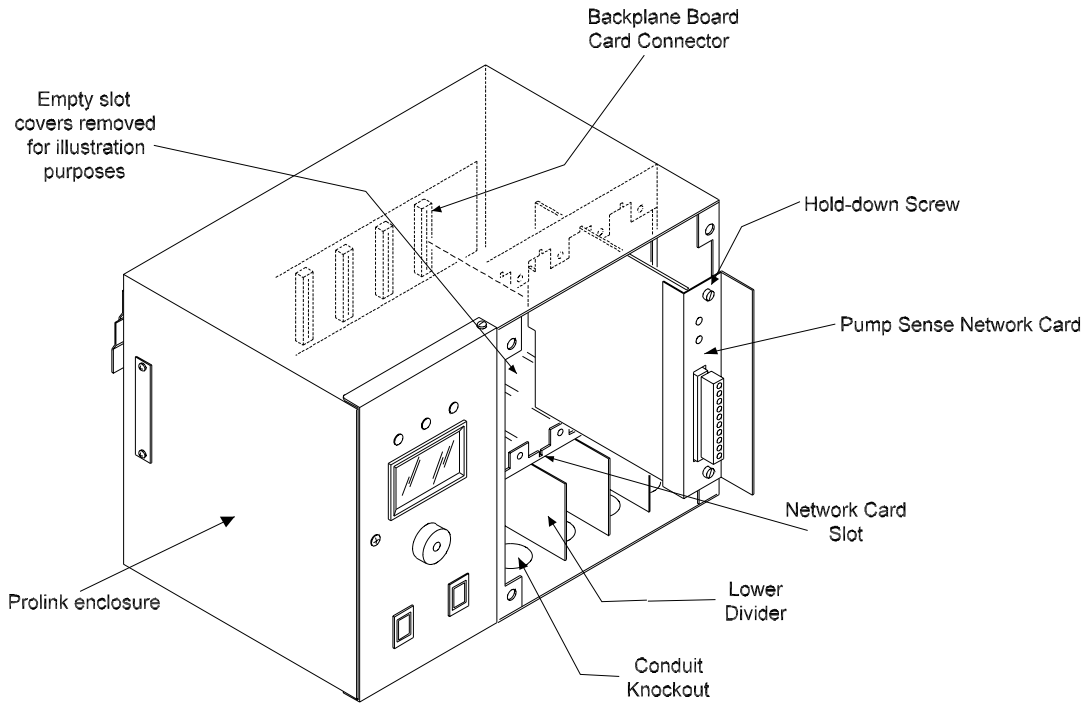


Figure 2.2 Installation of the Pump Sense network card

Step 4: Slide the Pump Sense network card into the selected slot. Note the orientation of the card in *figure 2.2*. Make sure that the card connects completely with the backplane board. Tighten the two hold-down thumbscrews to fully secure the card in position.

Notice	Do not attempt to install the card backwards.

Step 5: Pull the necessary dispenser return wires through conduit and connect to the proper terminal on the Pump Sense card (See *figure 2.3*).

Step 6: Close and fasten the network card access panel.

Step 7: Reconnect power to the Prolink chassis.

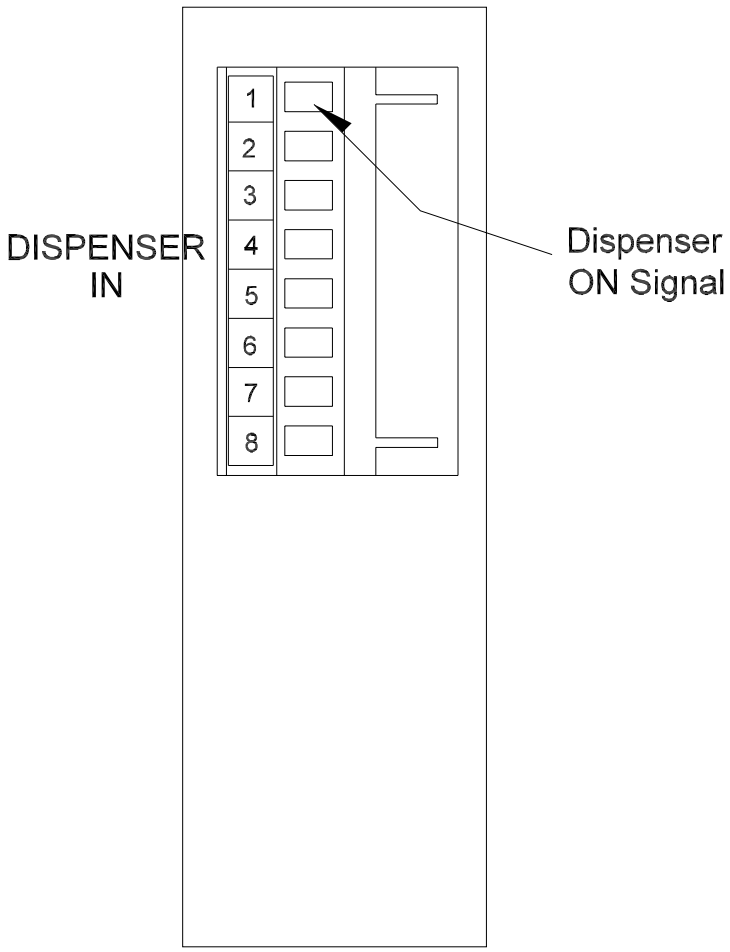


Figure 2.3 Pump Sense network card input connections

Pump Sense Network Card configuration worksheet information

When installing the Pump Sense network card, the following information must be recorded on the Prolink Installation and Configuration Worksheet.

- **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 2.4.*

Prolink Installation and Configuration Worksheet Sample

Pump Sense network card required information.

Prolink Configuration Worksheet– SAMPLE

Chassis #_____		Slot 1
Type of Network Card Installed		PUMP SENSE NETWORK CARD 12/15/98 123456789 REXXX-XXX
CHANNEL 1 PROBE/SENSOR TYPE		UNLEAD DISP 1 TANK 2
CHANNEL 2 PROBE/SENSOR TYPE		

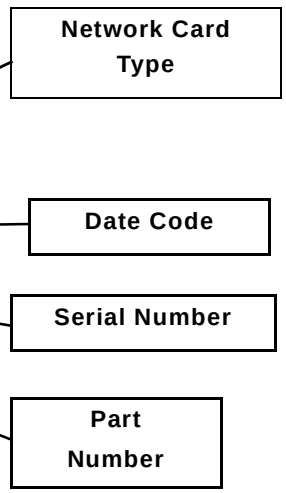


Figure 2.4 Pump Sense network card required information

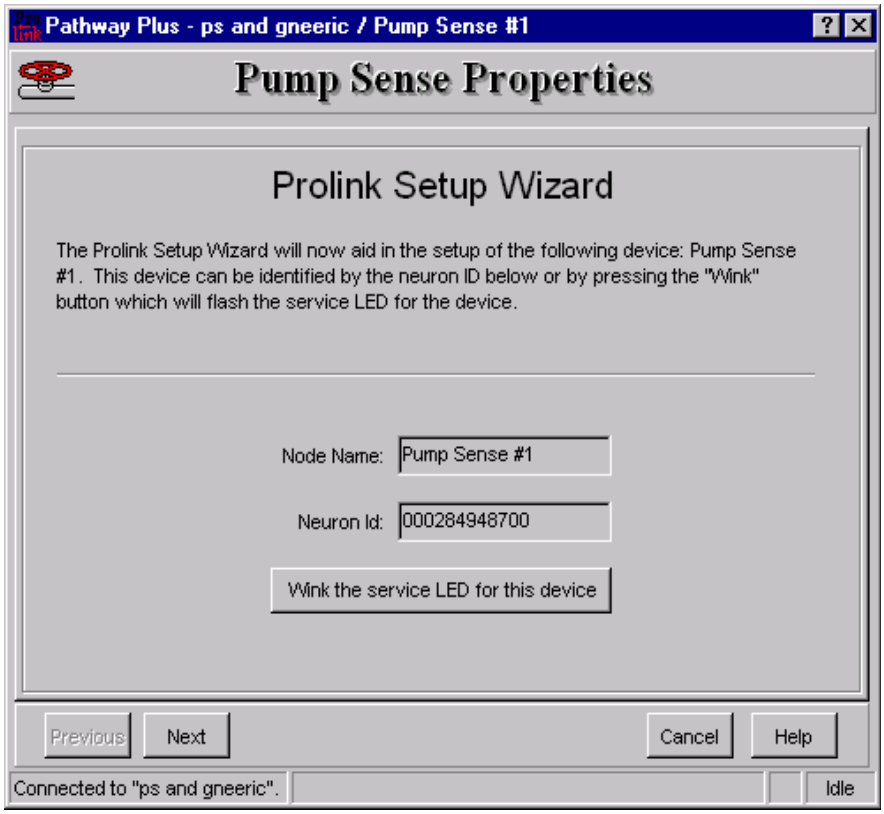
Chapter 3: Pathway Plus Setup

This Chapter Explains:

- **Pump Sense Network Card Setup in Pathway**
- **Setup of Node Object**
- **Setup of Pump Sense Objects**

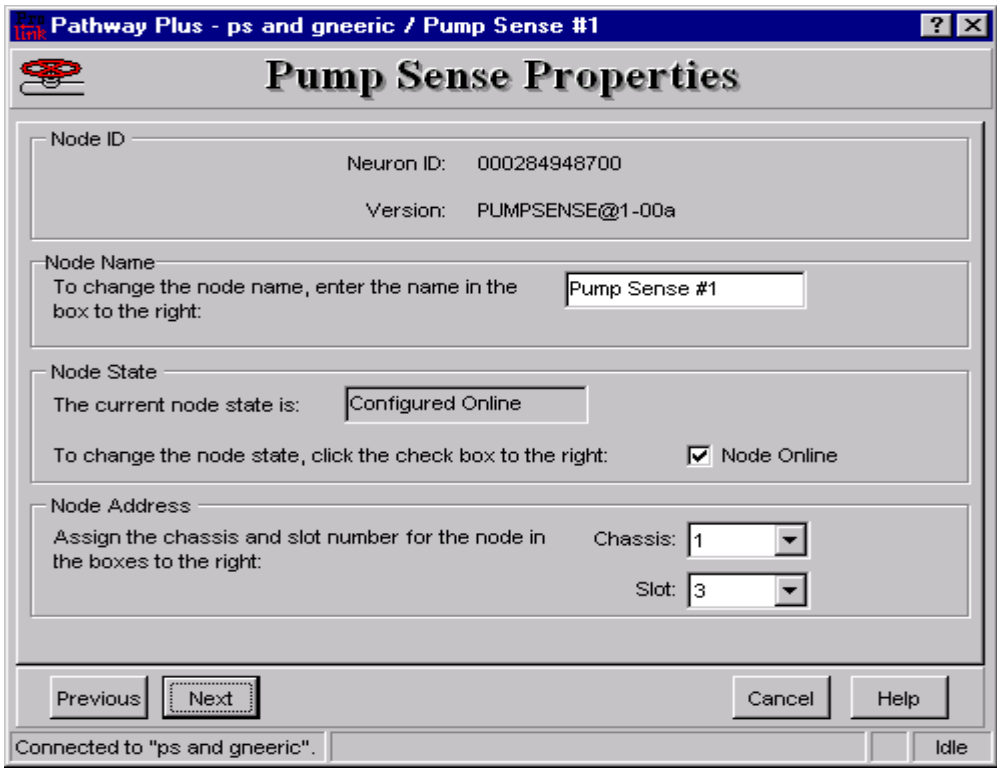
Pump Sense Network Card Setup in Pathway

Setup of 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: 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 cofiguration worksheet.

Node 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).

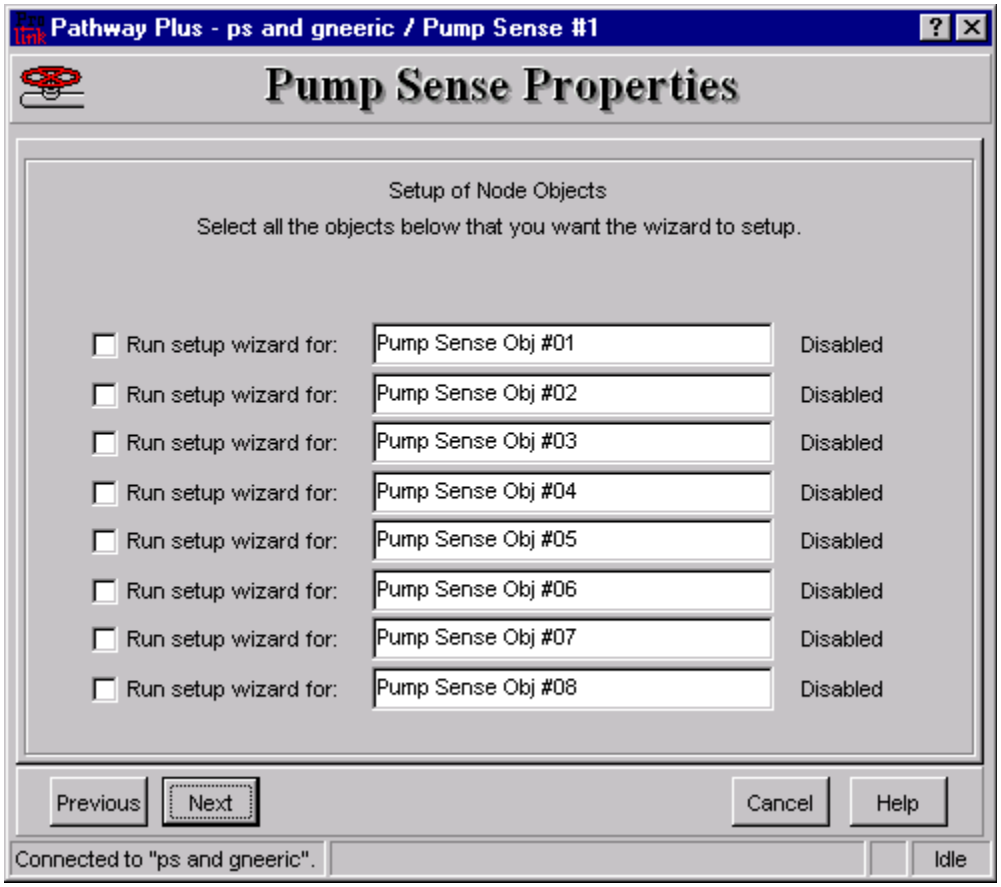
Node State: This is a read only field that shows the current node state.

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 checkbox should remain selected. To take the node offline to allow service work to be performed at the station, uncheck this box.

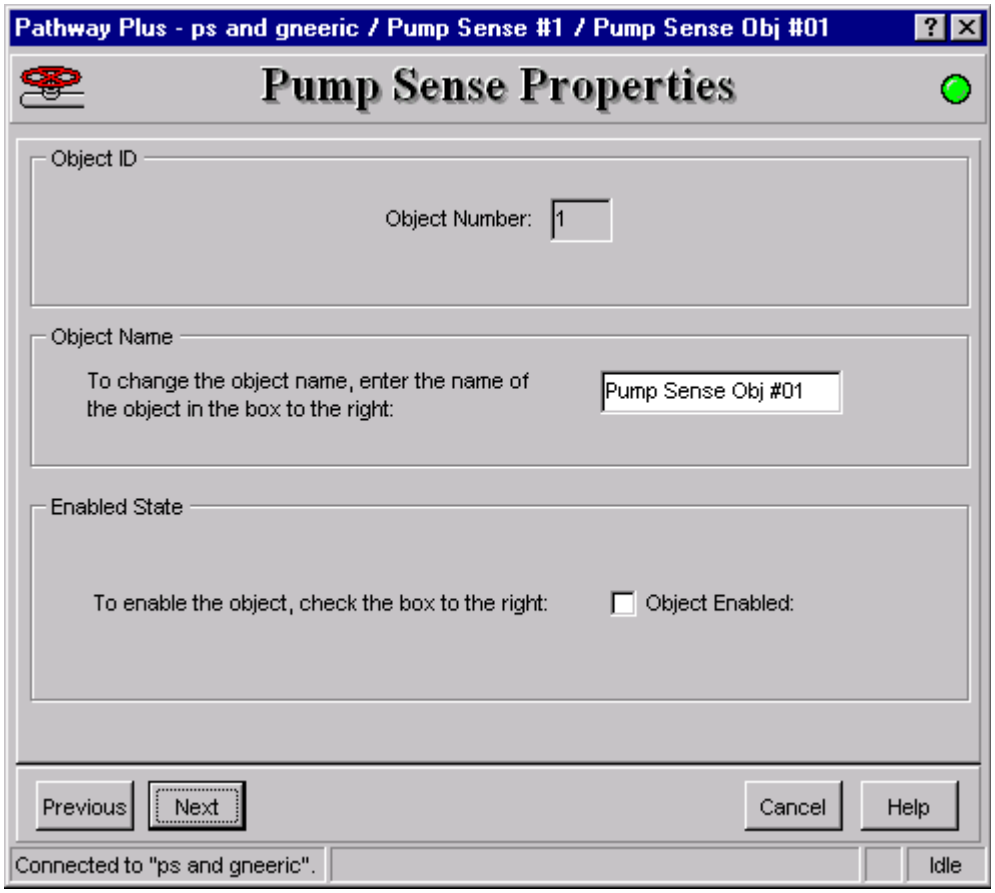
Node Address: The address is used to identify which chassis and slot the card is in. It identifies the physical location.



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.

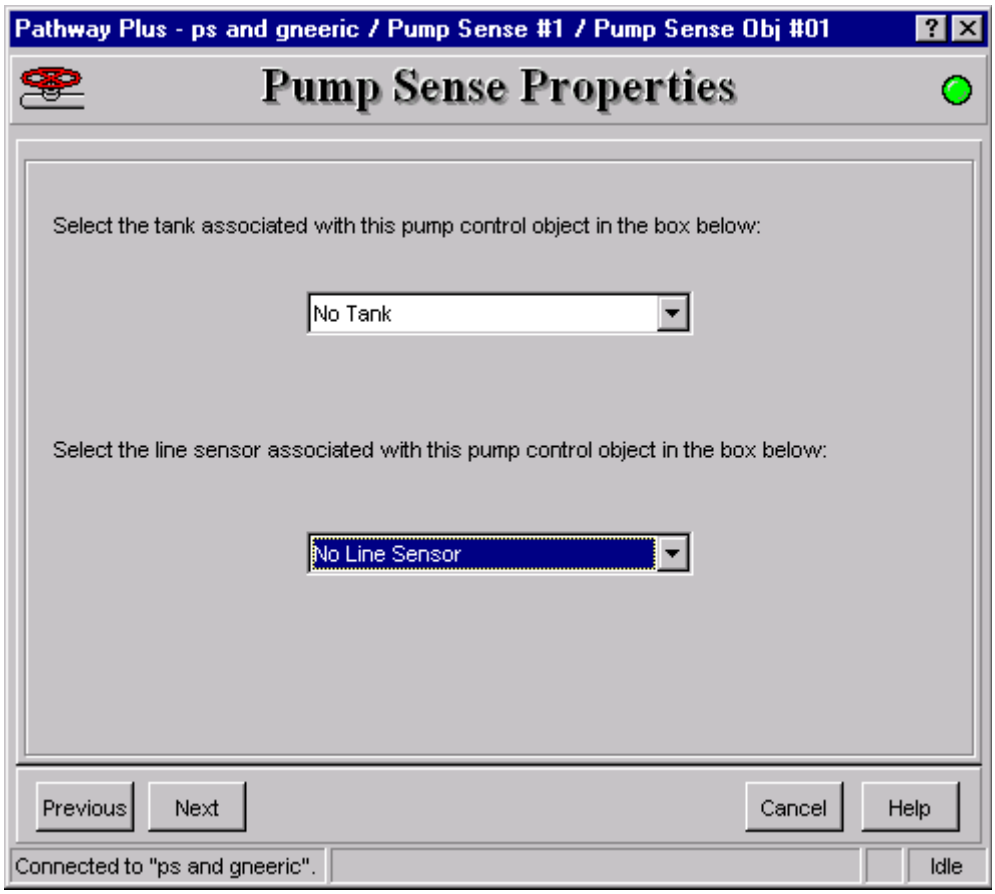
The **node name** represents the current name of the card you will be working with. The **neuron id** is a series of numbers and letters that uniquely identifies the card being configured.



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.

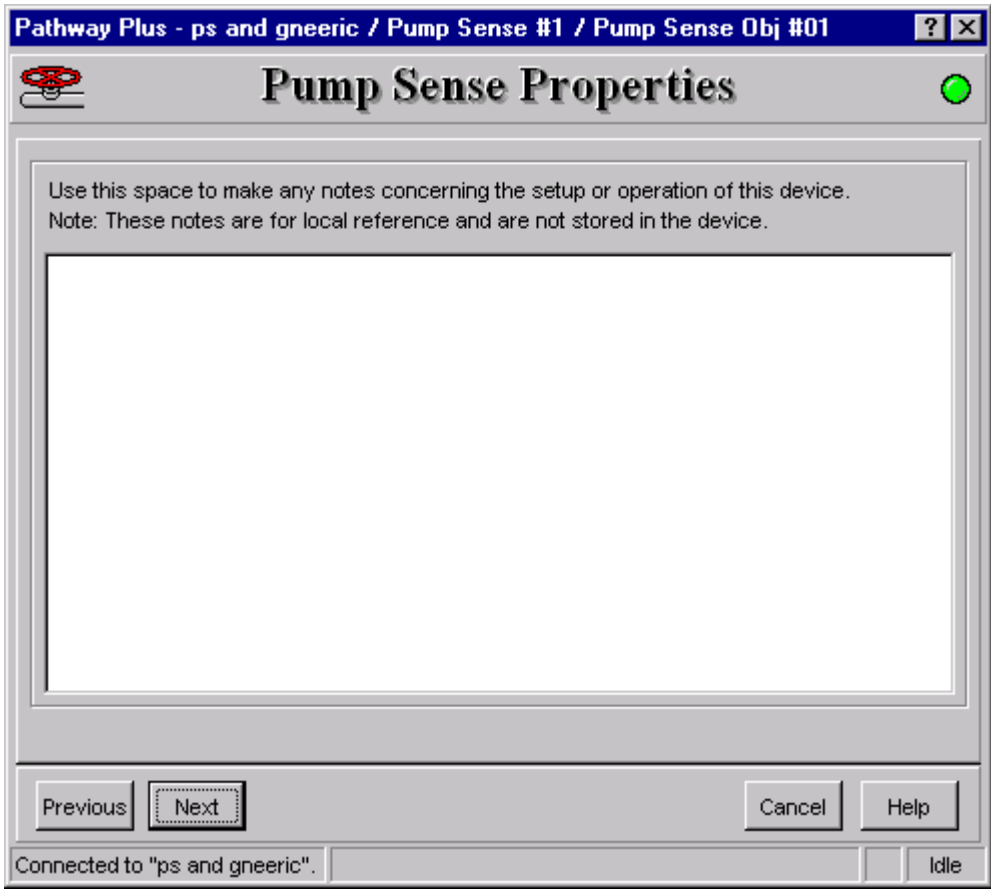
Object Name displays the name of the object. This field may be changed (max. 12 characters) or left at default.

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



Select Tank: If a tank gauge card such as the Mag card, Sonic card, or Generic Tank card is installed in this Prolink you will need to select the tank that is associated with this object.

Select Line Sensor: Select the pressure transducer that is associated with this object.



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.

Index