



## Interfacing a Sutron 9210B to ILEX LRGS



Prepared by:  
R&D  
March, 2009  
(Updated March, 2011, for DamsNT.sll)



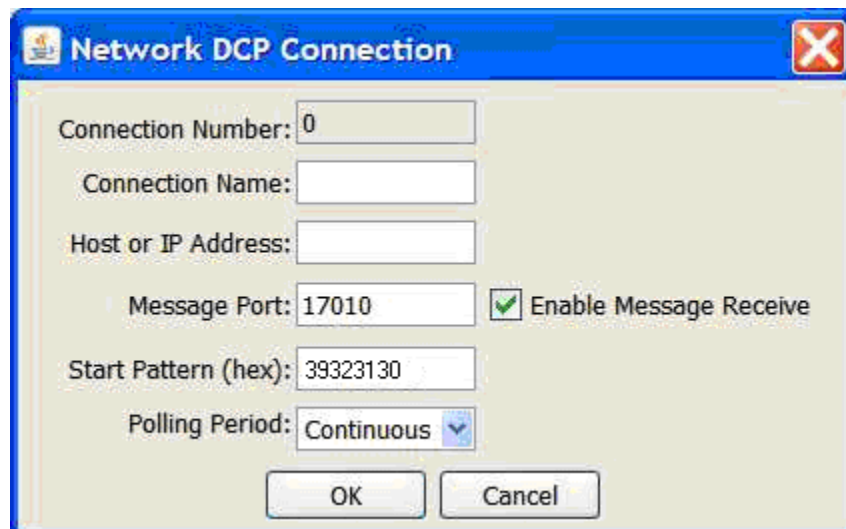
## Introduction

The Xpert2/9210B (“Xpert”) can be configured for the DAMS-NT protocol. The LRGS can connect directly to these systems over the network to receive data.

The Xpert software version must be 3.7 or higher in order to support DAMSNT through the DamsNT.sll. A basic program is available for DAMSNT prior to 3.7. Contact Sutron Customer Service for assistance in using the basic program.

## Configuring the LRGS

The LRGS has a separate configuration tab for Network DCPs. See the snapshots below.





Enter the site name into the Connection Name field, and the Xpert's IP address into the Host or IP Address field.

Set Start Pattern to match the expected message start pattern. The value shown of "39323130" is the hex representation for the characters "9210".

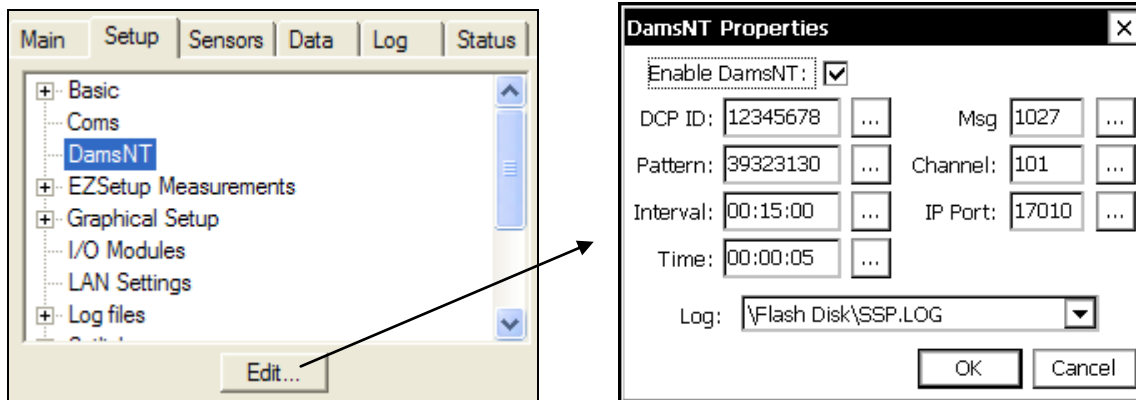
Note: when setting the Polling Period to Continuous, the socket to the Xpert will be kept open, and might tie-up more network resources than you need.

## Configuring the Xpert2/9210B

The Xpert is configured for speaking the DAMSNT protocol by installing the DAMSNT program (a Sutron Link Library named "DamsNT.sll", delivered as part of every software upgrade package downloaded from the Sutron website). To install and start using this program into the 9210, copy the DamsNT.sll file to the 9210 using Xterm, and then reboot the 9210.

### How it Works

1. The DAMSNT program is configured using the "DamsNT" control panel entry on the Setup tab. In Xterm, highlight the DamsNT entry and press the "Edit" button. The following dialog is displayed:



2. The DAMSNT program reports newly logged data to the selected log, on a schedule defined by Interval and Time, to each active connection to IP Port. Each message is capped in size at Msg Size, and the header is built from DCP ID, Channel, and Pattern.
3. Set the DCP ID, Channel, and Pattern for your site:
  - a. DCP ID uniquely identifies your site.
  - b. Pattern defines the header's start pattern. The value shown of "39323130" is the hex representation for "9210", which is the typical start pattern for the 9210 DCP. Be sure to set the Start Pattern setting in the Network DCP Connection dialog on the LRGS to the same value displayed here.
4. Interval and Time specify when to report data to the LRGS. Values of 15 minutes and 1 minute would cause the DCP to report every 15 minutes, offset by 1 minute (i.e., at 00:01:00, 00:16:00, 00:31:00, 00:46:00, and so on).
  - a. The periodic running of the program allows the program to gather into one message multiple data values for output to the LRGS. If the data were sent to the LRGS in separate



messages, the LRGS filters would throw out any message that was within 2 minutes of another message received.

5. Set Msg Size to the maximum size of the message the DCP should send at any one time. The DCP sends multiple messages if necessary to report all the data.
6. Set IP Port to the port on which the DCP will listen for LRGS connections. You can test connectivity by typing "telnet x.x.x.x port" at a Windows command prompt where x.x.x.x is the IP of the Xpert, and port is the port specified above.
7. Set Log to the log file containing the data you wish to report.
8. Multiple connections are supported, as long as they come from different IP addresses.
9. The DAMSNT program remembers the last data reported to an IP, so if the LRGS disconnects and reconnects, the data reporting will pick up with where it left off. Note, however, a reboot of the 9210B will cause the 9210B to "forget" this information and start reporting newly logged data.
10. The program outputs one record per log entry. If data is logged individually, the format is:

Type, date/time (YYJJJHHMMSS, where JJJ = julian day), sensorname, value  
D,09076085510,5MINTEMP,86.

If you have logged multiple values in each record (e.g., using EzSetup), the format will be:

Type, date/time (YYJJJHHMMSS, where JJJ = julian day), log ID, data  
R,09076085510,F1,0.234,1.151,2.234