

# EchoTREK

*S-300 compact ultrasonic level  
transmitter*

*DataScope for SE/SP-300 transmitters*

USER'S MANUAL

1<sup>st</sup> edition

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*Thank you for choosing a NIVELCO instrument.  
We are sure that you will be satisfied throughout its use*

## 1. INTRODUCTION

DataScope software is a data accessing program for EchoTREK devices with on-board data acquisition function. The program supports the SE□/SG□/SP□-3□□-1, -3, -7 types.

## 2. ON-BOARD LOGGER OPERATION

The logger stores device-specific data. During development, the main aim was to facilitate fault detection, as a result, the data logger also stores data which are of no interest to the average user.

Item	Comment
Date	Date of log (minute precision)
Event code	Type of log
Index	Index of log
Primary value	according to P01
Measured level	
Measured distance	
TOT1,TOT2	
Sensor temperature	
Calculated output current	
Internal statuses	
No. of detected echoes	
No. of selected echo	
Amplitude of selected echo	

The logger can store 12288 entries.

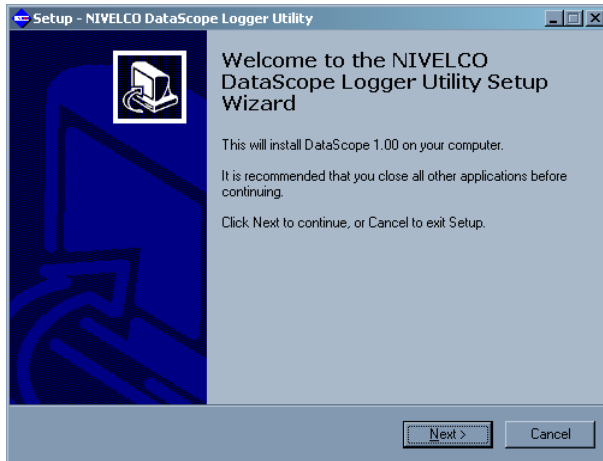
### 3. SYSTEM REQUIREMENTS

- **EchoTREK** (SE\_/SG\_/SP\_-3\_\_-1, -3, -7) device with logger function
- SAT-304 HART modem, ELink Adapter or SAP-200 (IrDA)
- WINDOWS XP SP2
- P4 2.0GHz processor
- 256 MB RAM
- 20 GB free hard-disc capacity

### 4. SOFTWARE INSTALLATION

To Install start the DataScopeInstall.exe file.

The setup wizard guides you through the setup process and automatically installs the software.



## 5. PROGRAM OPERATION

The program can read the content of the log using HART protocol, ELink adapter and Infra-Red (IrDA) SAP-200 display unit.

The program is capable of the following:

- Configuring logger functions;
- Reading the log (downloading from the logger in the device);
- Saving log to file;
- Reading log from file;
- Exporting log to ASCII text file;
- Exporting log to DBase file;
- Displaying trend.

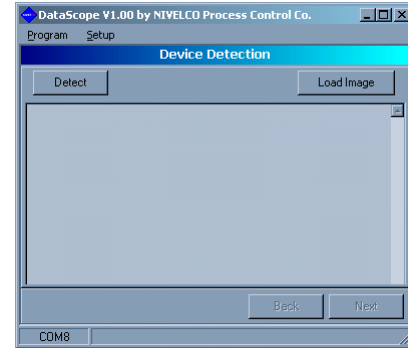


figure 1

### 5.1. STARTING THE PROGRAM

The program can be launched from Start/Programs/Nivelco/Datascope menu.

### 5.2. SELECTING COMMUNICATION

Communication can be set in the Setup/Communication menu (figure 2)

- **Port:** select the port for communication device
- **Adapter:** select the type of device (HART modem, ELink adapter, SAP-200 IrDA)
- **Mode:** operating mode of the selected device
- **Cycle Time:** in case of a communication error, the query can be slowed down. A greater value results in slower querying.

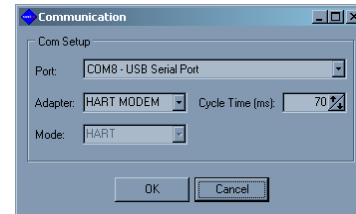


figure 2

Type of communication device	Read time
HART modem (HART protocol)	approx. 3 hrs.
ELink Adapter	approx. 10 min.
SAP200 - IrDA Adapter	approx. 10 min.

### 5.3. IDENTIFICATION OF THE DEVICE

To use log the devices should be identified by clicking the „**Detect**” button. Successful identification leads to the next window. (figure 5)

### 5.4. LOADING LOG

It is possible to read data from a previously saved log file by clicking on the „**Load Image**” button. Successful loading leads to the next window. (figure 5)

### 5.5. LOGGING SETTINGS

In this window the user can access the settings for timer and operating mode of the logger. For detailed description of operating modes see the installation and programming manual of the device.

When setting time click the „**Write**” button to download the desired time. Click „**Sync.**” to synchronize with the PC's clock. You can re-check the settings with the „**Read**” button. During setting of log, the function of „**Write**” and „**Read**” are similar.

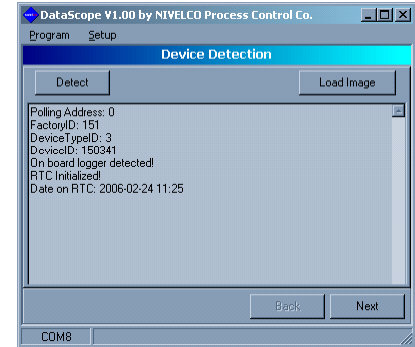


figure 3

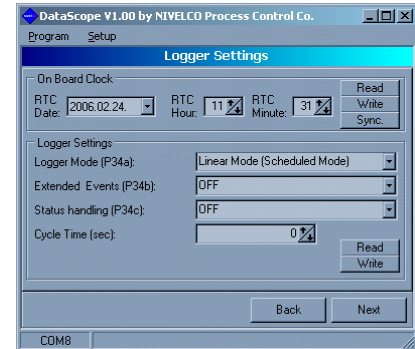


figure 4

## 5.6. READING LOG DATA

To start reading log from the device use the „**Start Reading**” button. This operation can be aborted at any time by the „**Stop Reading**” button. Reading progress is displayed in the status bar.

## 5.7. DELETING LOG DATA

To delete (clear) the log from the device click the „**Clear Logger**” button.

**WARNING! THE LOG CONTENTS WILL BE LOST!!**

## 5.8. SAVING LOG DATA

The current log can be saved for further processing with the „**Save Image**” button.

## 5.9. DISPLAYING TREND FUNCTION

Trend of the currently loaded log file can be displayed with the „**Show Trend**” button.

## 5.10. EXPORTING LOG DATA

The read or loaded log data can be exported to ASCII text file or DBASE file using the „**To ASCII File**” or the „**To DBASE File**” buttons respectively.

**WARNING!**

**IN CASE OF DBASE FILES, A NEW FILE IS ALWAYS CREATED, OVERWRITING THE PREVIOUS DATABASE. RESOLVING THE PROBLEM OF LINKING MULTIPLE LOG DATABASES IS UP TO THE USER (TO GET A LONGER PERIOD LOG).**

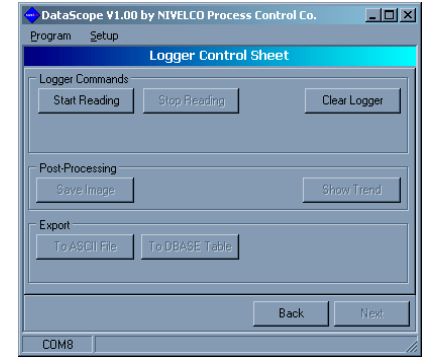


figure 5

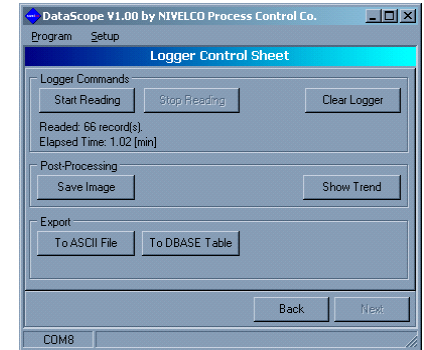


figure 6

## 6. TREND

In order to examine the logged data and events, the program offers a basic trend display.

The program offers the following possibilities:

- Date and time filter
- Log event filter
- Device error event filter
- Selectable value on the right axis
- Printing

The primary value is displayed on the left side of the axis (PV according to P01, see manual). If the operation mode of the primary value changes during logging the user should pay attention to it (E.g.: by filtering to the appropriate time interval).

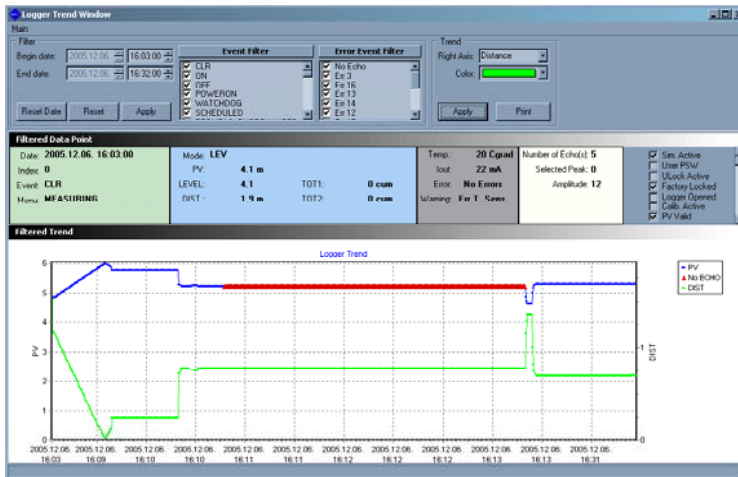


figure 7



## 6.1. FILTERING

To ease the examination of the log content the log can be filtered. Filtering conditions can be set at the top of the window.

Name	Meaning	Comment
Start date	Filter start date	This will be the date of the first record
End date	Filter end date	This will be the date of the last record
Event Filter	Log event	type of event to be in the filter result
Error Event Filter	Logged device errors	type of errors to be in the filter result

After configuring the appropriate filters events, the settings can be validated with the „**Apply**” button. The „**Reset**” and „**Reset Date**” buttons are for loading the default filtering settings.

## 6.2. SETTING THE SECONDARY VALUE

The following units are available on the right axis of the trend diagram:

- Level
- Distance
- Current output (calculated)
- Sensor temperature

The above values can be selected from the „**Right Axis**” list. A color can also be selected. To validate the settings click the „**Apply**” button.

## 6.3. PRINTING

To print the trend click the „**Print**” button.

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Jan, 2006

Technical specification may be changed without notice