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nST2 setup and usage instructions
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Edwards nST 2
Part Number - D39649660

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Minimum recommended specification (PC version)
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Windows operating system (Windows 7 or 10).
Processor 1.4 GHz (Intel i3/i5/i7 or equivalent).
500 MB Free Disk Space.
3 GB RAM.
Resolution 1280 * 800.
Standard Edwards serial-to-USB pump cables.

Local administrator rights are required to install the software for the
PC/laptop/Windows tablet.

nST 2 may work with other versions of Windows but this has not been validated at
time of publication.
Edwards cannot be held responsible for problems resulting from running on other
operating system versions or platform specifications.
System fonts, font sizes and resolutions can be adjusted for program display
optimisation.

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Installation
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1. Copy or download nST2_Setup.exe to a directory on a local drive.
2. Double click on the nST2_Setup.exe file to launch the program.
3. Confirm if prompted that the program is permitted to make changes to your
computer.
4. Choose an install location that you have full permission to access (the
default is usually acceptable).
5. Follow the installation instructions to install the software.
6. Double-click on the nST2 icon to launch the software.
7. Additional serial/USB device drivers to access pumps should be automatically
installed by Windows update as required.

Contact an administrator or the IT support function in your organisation if you
are unable to install the software.

The nST 2 program (D39649660) is only available via download from the Edwards
Product Support and Downloads web site.

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Main changes in version 1.5.1
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1. Fixes for nXLi enhanced firmware flashing.


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Main changes in version 1.5
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1. Add new nXLi device. No code changes just configurations file updates.



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Main changes in version 1.4
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1. Add disconnect device option (right-click on connected device name in devices
list)
2. Allow user config settings to be permanently applied when a connected pump is
running.
3. Enhance device connection speed and stability.
4. Prominently highlight the communications/connection status with a status bar
indicator.


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Main changes in version 1.3
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1. Added Communication Settings popup dialog in the status bar which allows user
modification of the Baud Rate, Device ID, plus minimum and maximum Device ID
ranges to use in device scans.
2. Permanently commit user configuration changes to the connected pump


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Main changes in version 1.2.1
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1.  Resize program window depending on resolution and font size scaling options
selected. Added support for wide range of resolutions and font scaling options.
2.  Support connection and upgrade of a few pumps loaded with old legacy
parameter sets (including nRVi) that used old/obsolete identification mechanisms.
3.  Allow data monitor parameters to be selected/deselected following a pump
disconnection and reconnection event.
4.  Ensure that only one instance of nST2 is running when starting the
application to prevent the possibility of resource contention.


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Software usage and features overview
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1.  User roles can be changed by clicking on the user profiles icon on the panel
on the left side of the screen.
   - The default user role is ReadOnly. It doesn't allow the user to update data
on the pump. It doesn't require a password.
   - The main user role is Customer. It doesn't require a password and offers
the ability to upgrade and configure the pump in standard usage scenarios.
   - The Service and Developer roles are for performing advanced upgrades and
diagnostics and are typically for internal use.


2.  The software will automatically scan ports, every few seconds, at startup and

after a pump disconnection event is detected (e.g. if a cable is removed).
    - It will then automatically connect to a pump (if only one pump option was identified).
    - If more than one pump option was identified as being available for connection purposes, the user should manually click on one option to select it.
    - If more than one pump option was identified then the user can click on the pump option that they wish to be the currently active and selected one.
    - When a pump has been selected, it will be highlighted in blue), and the auto device scan will pause.

3.  There is a manual device scan button on the left panel.
    - This will result in an immediate rescan of available ports for connection purposes and will refresh the display.
    - In most usage scenarios this option is not necessary.
    - It can sometimes be useful to refresh the display if connecting or disconnecting multiple device to ensure the displayed pump options are up-to-date

4.  The Pump Operations page provides key control options and status information for the currently active (selected) pump.
    - The Pump Commands view allows the user to issue a command to start, stop or enter standby mode. Some pumps will also show a Close Vent Valve option.
    - The Alerts Summary allows the user to see a snapshot of active warnings and errors. If the icons are greyed out then there is no current info available.
    - Double clicking on a coloured (non-grey) icon for errors or warnings in the Alerts Summary will jump to the Alerts page for more detailed info.
    - The Pump Status section shows some indicators of current status values reported by the pump for acceleration, deceleration, alarm active and speed notifications.
    - The Normal Speed, Ramp Speed and Overload Speed are all standard indicators that you would expect to see light up as the pump accelerates towards full speed.
    - The Key Parameters section features gauges showing the values of a few key parameters, applicable to the currently active pump.
    - The Key Parameters display will show the words Pump Disconnected whenever a disconnection event is detected (and at startup for some seconds).

5.  The User Configuration page allows the user to read and update key user configurable parameters (where applicable to the pump).
    - Press the read button to refresh the display of user configurable parameter values.
    - Press the edit button to change parameters. Select the parameters that you wish to change and modify their values.
    - Press the cancel button to abort an editing session without updating the data on the pump.
    - Click on the apply button to write the changes made back to the pump.
    - Parameters can only be viewed in the ReadOnly (standard) user level.
    - The Customer and above user levels allow the user configuration parameter values to be edited and applied.
    - File load and save options are also available to store and restore configuration settings that are used repeatedly.

6.  The Operational History page allows the user to view and update operational history data on the currently selected pump.
    - Press the edit button to change the values of some editable parameters. Select the parameters that you wish to change and modify their values.

- Press the cancel button to abort an editing session without updating the data on the pump.
   - Click on the apply button to write the changes made back to the pump.
   - Click on the Reset buttons to reset minor service, major service or run-time data (where applicable to the user level and current pump).
   - File load and save options are also available to store and restore values that are used repeatedly.
   - Parameters can only be viewed in the ReadOnly (standard) user level.
   - The Customer can generally reset service counters (available options vary according to the pump).
   - The Service user can update pump identity and most operational history parameters (where applicable to the pump).

7.  The fault log page provides options to read faults from a connected pump and save the fault log records to local storage.

8.  On the Data Monitor page the user can log to file and plot values on a chart the values of selected parameters at periodic intervals.
   - A table data view is also provided to show values for file logging on the screen as they are updated, for dynamic monitoring.

9. The Flash Upgrade page allows the user to upgrade the software and/or parameter sets on a connected pump/drive.
   - The middle column on the initial Device Info view shows the current pump configuration.
   - The right hand column on the Device Info view shows the current release.
   - The current release means the latest proposed variant stored by the tool, which is compatible and is available for upgrade.
   - If proposed software or parameter sets are marked as green in the current release field on the upgrade page it means that the current software is up to date.
   - The current release will be coloured in red if the currently installed version on the pump is behind the latest stored version which is available for upgrade.
   - Manual upgrades can be done via the manual file selection buttons (for service users or developers). An upgrade file can be chosen from a file selection dialogue.

10. The Data Sync page allows the user to initiate a check for pump/drive software and parameter set updates.
   - Once a data sync is initiated, it will download available software and parameter set file releases for supported pumps.
   - Performing a data sync requires an Internet connection but the software can be used offline when not performing this function.
   - It is recommended to perform this operation from time to time to get the latest set of files which have been released for pump upgrade purposes.

11. The Fault Log page allows the user to read faults from the connected pump and store the fault log records locally for later inspection.
   - The Full Log section shows a bulk summary of all data retrieved from the pump in a formatted form.
   - The Selected Log section allows the user to see individual faults.
   - Individual faults can be selected from the pulldown list and can be traversed through using the fault log traversal buttons.

12. The Alerts page provides a snapshot of alerts such as warnings and errors and the view is updated dynamically on a periodic basis.
    - The Active flag for paticular alerts can be unselected and then pressing the Show Active Only button will remove stale alerts from the display.

13. The BCON page allows the user to initiate, stop and monitor the bearing conditioning process (available for nEXT730/930 pumps).

14. The Parameter View page provides a grid showing a list of all applicable and relevant registers for the currently selected pump.
    - This page is only available to the Developer user level.
    - The user can select some or all of the available registers to see their raw/unscaled values for testing and diagnostic purposes.
    - The data values of the registers that have been selected can be updated on the display by pressing the refresh button.

15. Communication Settings can be changed by clicking on the Comms... button on the status bar.
    - This window displays the Active Device ID and Active Baud Rate when a pump is connected.
    - The user is able to modify the Device ID (hint) and actual Baud Rate to use during the device scan.
    - The minimum and maximum range for Device ID can be set which specifies a range of device IDs to use in the device scan.

16. The About button on the status bar displays the details about the current nST2 application.
    - Product information such as the installed application version is displayed.