



# *TA Instruments New Features in DSCRun™ Software*

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## **Notice**

The material contained in this manual, and in the online help for the software used to support TA Instruments products, is believed adequate for the intended use of the instruments. If the instruments or procedures are used for purposes other than those specified herein, confirmation of their suitability must be obtained from TA Instruments. Otherwise, TA Instruments does not guarantee any results and assumes no obligation or liability. TA Instruments also reserves the right to revise this document and to make changes without notice.

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## **Software Upgrade Access**

The individual instrument software described in this manual is shipped with all appropriate shipments of Nano ITC, Nano DSC and MC DSC instruments. For all previous versions of the software provided with these instruments, upgrades are available via on-line downloads from the TA Instruments website. Contact TA Instruments customer service or your TA Instruments account manager for details.

# Important: TA Instruments Manual Supplement

Please click the [TA Manual Supplement](#) link to access the following important information supplemental to this Getting Started Guide:

- TA Instruments Trademarks
- TA Instruments Patents
- Other Trademarks
- TA Instruments End-User License Agreement
- TA Instruments Offices

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# New Features in DSCRun v4.7.1

## *New Features and Functionality*

- Fully automated instrument cleaning methods now have a target cleaning option for the autosampler syringe. This is only available for instruments with an Autosampler v2 interface.
- Added simulation mode.

## *Bug Fixes*

- Fixed inline editing upper or lower temperature of a scan. The new value was sometimes not being set if an experiment was running and the currently executed step is changed.
- Software is now FIPS 140 compliant.
- The Pre-scan option is now stored as part of the experiment method. .



**NOTE:** This option is ignored when running an autosampler method

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- Cosmetic bug fixes.

# New Features in DSCRun v4.6.0

## *New Features and Functionality*

- Serial Number is now added to the data file.
- New low-volume functionality.
- Added required Autosampler tray well volumes window, similar to ITCRun.
- Removed option to reuse reference.

## *Bug Fixes*

- Fixed “TTop DAC” signal accuracy in the Diagnostics tab.

## **New Features in DSCRun 4.5.0**

### *Bug Fixes*

- Only one instance of DSCRun at a time can be started.
- Fixed issue with using ports 5 and 6 for cleaning with Autosampler v2 interface.
- Fixed a bug that allowed a user to overwrite a data file when Guardian is enabled.

## **New Features in DSCRun v4.4.27**

### *Bug Fixes*

- Data Interval was always 1 second irrespective of the user-selected interval.

## **New Features in DSCRun v4.4.25**

### *New Features and Functionality*

- Added Sample Name and Reference Name to data file for autosampler experiments. NanoAnalyze can now export those and other experiment information to the clipboard.

### *Bug Fixes*

- Improved pressure readings.
- Fixed bug with Heat Rate graph label not showing on the Data tab when both scans and isothermal items are available to graph, and only isothermal items are selected. Removed option to view both isothermal and scans at once.
- Added Windows 10 (Anniversary Edition and beyond) device drivers.
- Guardian notifications are now stored in a location that is not user-specific.
- Fixed issue with Basic Guardian user being able to update/save methods under some conditions.
- Fixed issue with cleaning method table not being displayed when loaded.

## **New Features in DSCRun v4.4.17**

### *New Features and Functionality*

- Improved pressure readings.
- Added support for the autosampler interface model #602342. Support continues for model #602215.

## **New Features in DSCRun v4.4.9**

### *New Features & Functionality*

- Supports second generation autosampler interface.
- Improved look.

### *Bug Fixes*

Now removes invalid Windows characters from data file paths.



# New Features in DSCRun v4.4

## *New Features & Functionality*

- Introduced Guardian, an implementation of 21 CFR Part 11.
- Improved reliability of communication with Spark-Holland autosampler.
- Instrument serial number is now visible in the About dialog.

## *Bug Fixes*

- Valves in the autosampler interface are now switched one at a time.
- When an error occurs with the Spark Autosampler, the DSCRun error dialog now displays the Spark error message rather than a generic error message.
- Fixed extra signals not being stored in the data file.
- Fixed an issue with setting access rights for standard users to the TA Instruments program data folder.
- DSCRun no longer crashes on startup when no USB or NI device is attached.
- Instrument now does not stop when an autosampler interface valve potential error is detected. It is logged in a Notification.
- Several cosmetic fixes

## **New Features in DSCRun v4.3.0**

### *New Features & Functionality*

- Added option to leave reference cell filled between experiments.
- All settings can now be stored to and retrieved from computer files.
- The balance can now be stored to and retrieved from computer files.
- DSCRun now stores the most recent balance scan in a computer file.

### *Bug Fixes*

- Improved communication reliability with the autosampler interface.
- Changed all graph lines to thin and solid.
- Fixed an issue with random crashes when using a NiDAQ card.
- Updated code for setting user access rights to settings and default methods path.
- Signed device drivers for Windows 7, 8.1, and 10 for both 32- and 64-bit versions. (No drivers in NanoAnalyze.)

## **New Features in DSCRun v4.2.13**

### *New Features & Functionality*

- Added option to leave reference cell filled between experiments.
- All settings can now be stored to and retrieved from computer files.
- The balance can now be stored to and retrieved from computer files.
- DSCRun now stores the most recent balance scan in a computer file.

### *Bug Fixes*

- Improved communication reliability with the autosampler interface.
- Changed all graph lines to thin and solid.
- Fixed an issue with random crashes when using a NiDAQ card.

## **New Features in DSCRun v4.2.6**

### *New Features & Functionality*

- Diagnostics signals are now included in data files.

### *Bug Fixes*

- Improved the reliability of communications to the autosampler interface.
- Retains prior Balance corrections if a new Balance is started but not finished.

## **New Features in DSCRun v4.2.4**

### *Bug Fixes*

- Fixed firmware so that temperature offset is limited by  $\pm 1$  rather than  $\pm 0.5$ .
- Fixed bug where mixing scans with isothermal steps could cause a crash when running the experiment.
- Fixed an infrequent issue with MS Windows incorrectly selecting a generic USB device driver for the Nano DSC instead of using the driver provided by TA Instruments. The problem could occur with some computers if the instrument is switched on with the USB cable connected to the PC.

# New Features in DSCRun v4.2.1

## *New Features & Functionality*

- Added exotherm direction symbol.
- The collection software has been updated to better handle disconnecting and reconnecting USB. This includes the "Online" LED in the software turning on and off. If USB is disconnected for more than 30 seconds, all instrument control is stopped and any running experiment is stopped.
- Added autosampler Cleaning Flow Rate Calibration Factor to the DSCRun settings dialog box.
- Other minor enhancements.

## *Bug Fixes*

- Fixed an issue in which a very slow heating scan may complete and change to the Moving state in preparation for the next scan, but never exit the Moving state. Only affects instruments with a National Instruments interface.
- Other minor fixes.

## **New Features in DSCRun v4.1.12**

### *Bug Fixes*

- Fixed issue with balance being stored incorrectly when the Windows Region and Language format is set to a language that uses the comma for the decimal point.

## **New Features in DSCRun v4.1.6**

### *Bug Fixes*

- Fixed an issue with settings loading incorrectly when moving a DSC instrument between computers with different regional settings, specifically regions with a different radix symbol for numbers.

## **New Features in DSCRun v4.1.2**

### *Bug Fixes*

- Fixed an issue where an autosampler interface may not be detected on some DSC instruments.
- Fixed balance scans not completing.

## **New Features in DSCRun v4.1.0**

### *New Features & Functionality*

- Compatible with Microsoft Windows 7 32-bit and 64-bit.
- The experiment table in the Setup page allows direct in-place editing of experiment settings.
- Drivers for the Autosampler are automatically loaded during installation of DSCRun.

## **New Features in DSCRun v4.0.10**

### *Bug Fixes*

- Fixed bugs in the pressure control which caused incorrect pressure set points.
- Fixed a bug in the balance scan that could freeze the data plot.
- Fixed a bug in which running a balance scan in a DSC Autosampler system could fail to automatically start the scan.

## **New Features in DSCRun v4.0.8**

### *New Features & Functionality*

- Allow installation on non-English versions of Windows.
- Improve signal control.

## **New Features in DSCRun v4.0.6**

The TA Instruments DSCRun v4.0.6 software for the Nano DSC was updated to add support for various computer settings and new analysis features.

### *New Features & Functionality*

- Support for Nano DSC with USB interface.
- Autosampler driver is now automatically installed with the Nano DSC installer.

## New Features in DSCRun v4.0.5

The TA Instruments DSCRun v4.0.5 software for the Nano DSC was updated to add support for various computer settings and new analysis features.

### *New Features & Functionality*

- Updated autosampler scripts. The scripts perform autosampler tasks such as filling a cell.
- When in autosampler configuration, the reference cell is now filled before the sample cell to decrease the chance of cross contamination.
- To avoid confusion, the **Experiment Status** tab is now only available when running an experiment. The **Experiment Status tab** is now automatically selected when starting an experiment, and the **Experiment Editor** tab is automatically selected when completing an experiment.
- Other minor improvements and fixes.

## New Features in DSCRun v4.0

The TA Instruments DSCRun v4.0 software for the Nano DSC was updated to add support for various computer settings and new analysis features.

### *New Features & Functionality*

- Added Autosampler functionality.
- Improved the user interface.
- Changed functionality of the **Zero Offset** setting. The offset is now added, rather than subtracted, from the jacket temperature reading.
- Added the ability for the user to populate autosampler, experiment, and cleaning method setup fields by double-clicking on an item in a method table.

### *Bug Fixes*

- Fixed an issue where the scanning duration can be incorrect if the end temperature of an experiment step is modified by the user while the step is executing.
- Fixed manual vertical scaling on monitor graphs.
- Other minor bug fixes and enhancements.

## New Features in DSCRun v3.6

The TA Instruments DSCRun v3.6 software for the Nano DSC was updated to add support for various computer settings and new analysis features.



**NOTE:** If running a beta version of DSCRun, select the **Start** menu > **Settings** > **Control Panel** > **Add or Remove Programs**, and remove the software from your system before installing a new version. If you are unsure of whether or not you are running a beta version of DSCRun, remove the software. After removing the software, proceed with the instructions in the *DSCRun Getting Started Guide*.

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### *New Features & Functionality*

- The instrument cell volume can now be stored in the **Runtime Variables**. This information is now added to the raw data file and retrieved by NanoAnalyze during data analysis.
- The experimental details for each sample are now entered into the experimental **Setup** tab prior to running an experiment. These data are then stored in the raw data file and retrieved by NanoAnalyze during data analysis.

## New Features in DSCRun v3.5.1

The TA Instruments DSCRun v3.5.1 software for the Nano DSC was recently updated.

### *Bug Fixes*

- Fixed a bug in which the scans would sometimes start 1°C to 2°C away from the desired initial temperature.



## New Features in DSCRun v3.5.0

The TA Instruments DSCRun v3.5.0 software for the Nano DSC was updated to add support for various computer settings and new analysis features.

### *New Features & Functionality*

- Added the ability to define both heating and cooling residual scans in one step.
- **Experiment stop** button is now available.
- Added **Prescan** option.

### *Bug Fixes*

- Fixed inability to handle language setting with a dialect.
- Fixed restrictions on non-administrator use of software; residual database and application settings moved to **Common Application Data** folder.

## New Features in DSCRun v3.3.0

The TA Instruments DSCRun v3.3.0 software for the Nano DSC was updated to add support for recording pressure measurements. This new option gives you the ability to record specific pressure measurements during standard differential scanning experiments. This is particularly useful when running experiments using the Nano DSC. For example, pressure measurements can be analyzed to determine partial heat capacity during a typical differential scanning calorimetry experiment. This feature, combined with the sensitivity and baseline stability of the Nano DSC, further enhances the instrument's control and data collection software flexibility.

### *New Features & Functionality*

- Added compatibility with all Nano DSC instruments.
- Added new **Pressure Perturbation Calorimetry (PPC)** data collection function.
- Added new graphical user interface.
- Data files are only compatible with new NanoAnalyze v1.1.0 data analysis package.

### *Bug Fixes*

- **Pressurize** button is fully functional after running scan.
- Added support for languages that use the comma symbol as a decimal point.
- Graphing is fully functional in steps with slow scan rates.
- Starting a new experiment now clears the current data rather than appending to it.
- Automatic data saving is executed after every experiment step.

# TA Instruments Offices

For information on our latest products, contact information, and more, see our web site at:

<http://www.tainstruments.com>

TA Instruments — Waters LLC  
Corporate Headquarters  
159 Lukens Drive  
New Castle, DE 19720  
USA

Telephone: 302-427-4000  
Fax: 302-427-4001  
Email: [INFO@tainstruments.com](mailto:INFO@tainstruments.com)