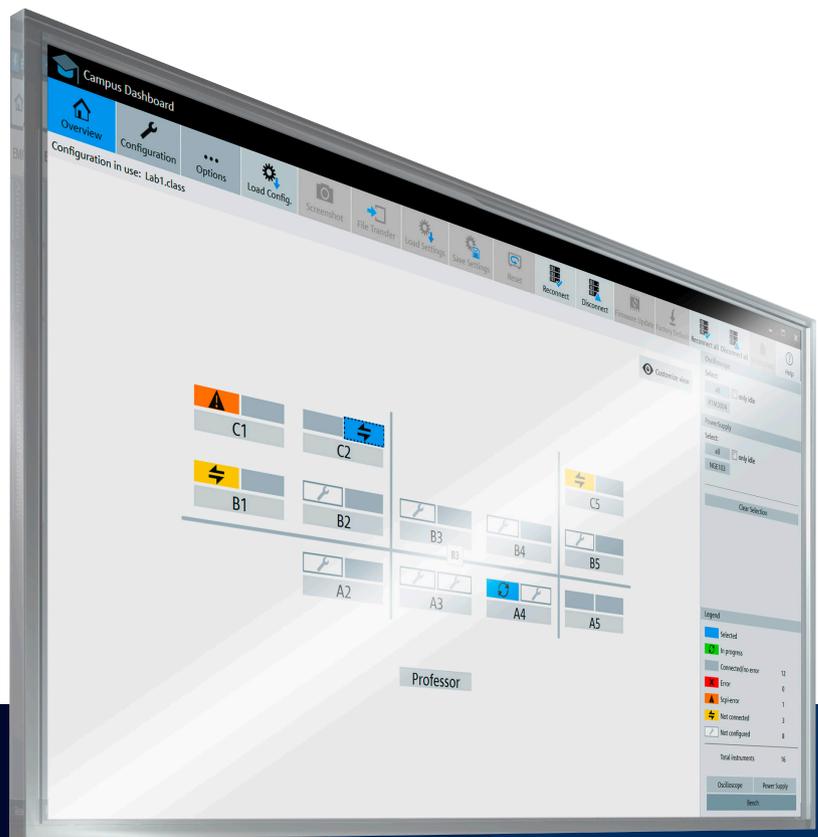


R&S®CDS

CAMPUS DASHBOARD SOFTWARE

Teaching software for multi-user student labs



Product Brochure
Version 04.00

ROHDE & SCHWARZ

Make ideas real



AT A GLANCE

The R&S®CDS campus dashboard software simplifies teaching of student groups in laboratories with multiple workbenches. It provides access to many instrument functions and settings as well as firmware updates and screenshots.

Teaching large student groups in test and measurement laboratories can be difficult to manage. Especially in laboratories with many workbenches and different instruments, it is cumbersome to provide identical conditions for all students. Retrieving results from all student instruments is usually a time-consuming task. It is also necessary to keep all instruments up to date with regular firmware updates.

With the R&S®CDS software, these tasks can be performed for multiple instruments simultaneously. R&S®CDS facilitates simple and time-efficient teaching of large student groups in laboratories with multiple test and measurement benches.

Operated from a central computer, the software automatically connects to supported instruments in the local network. The instruments can be arranged on virtual benches that can be customized to match the user's laboratory layout. The software enables simultaneous firmware updates on multiple instruments with just a few clicks.

The R&S®CDS campus dashboard software remotely controls up to 300 individual instruments (oscilloscopes, spectrum analyzers, network analyzers and power supplies). The teacher uses the software to set identical conditions for all student benches, to save settings from one instrument and distribute these settings to all students, or to re-



trieve results of all students simultaneously. These operations require just a few clicks.

The teacher can remotely control the single instruments and execute various measurement functions using the software interface. This tremendously simplifies simultaneous lab training for student groups. It also streamlines regular maintenance of multiple instruments in laboratories with many workbenches by enabling simultaneous firmware updates on multiple instruments.

The R&S®CDS software is an ideal solution for easily managing and controlling large student laboratories from a single computer. Lab managers, tutors, students and professors equally benefit from its excellent usability, simplified workflows and automation capabilities.

Key facts

- ▶ Improve teaching routines in large student laboratories
- ▶ Control up to 300 individual test and measurement instruments from one workstation
- ▶ Train students efficiently on oscilloscopes, spectrum analyzers, network analyzers and power supplies
- ▶ Set identical conditions for all student benches
- ▶ Save settings from one instrument and distribute to all students
- ▶ Take a snapshot of the entire classroom for continuous teaching sessions
- ▶ Retrieve results of all students simultaneously
- ▶ Control various instrument functions, settings, firmware updates, screenshots



BENEFITS AND KEY FEATURES

Efficient laboratory teaching for student groups

- ▶ Set identical conditions for all student benches
- ▶ Save settings from one instrument and distribute to all students
- ▶ Retrieve results from all students simultaneously
- ▶ Customize virtual benches to match the laboratory layout

Loading settings to multiple instruments makes it possible to load identical lessons onto several instruments. Taking screenshots from multiple instruments and collecting them with just a few clicks after a test increases efficiency for teaching and testing large student groups.

Remote control of up to 300 individual instruments

- ▶ R&S®RTC1000, R&S®RTB2000, R&S®RTM3000, R&S®RTA4000 oscilloscopes
- ▶ R&S®FSH, R&S®FSC, R&S®FPH, R&S®FPC1000, R&S®FPC1500 spectrum analyzers
- ▶ R&S®ZVH, R&S®ZPH network analyzers
- ▶ R&S®NGE100, R&S®NGE100B power supplies

Grouping several instruments into multiple virtual benches gives a clear overview of the laboratory in the software interface, including the status of each individual instrument. An automated search detects all supported instruments in the local network. Alternatively, an .xml list of individual instruments can be loaded into the software. Custom bench layouts match the software with the actual lab arrangement.

Perform remote measurements

- ▶ Remote control of various instrument functions
- ▶ Direct access to hardkey functions and software features
- ▶ Graphical user interface for easy operation via live view

Measurement functions of each configured instrument can be executed using the R&S®CDS campus dashboard software. With a GUI that matches the control layout of the selected instrument, the software can be intuitively operated. This simplifies measurement tasks and enables individual training of students.

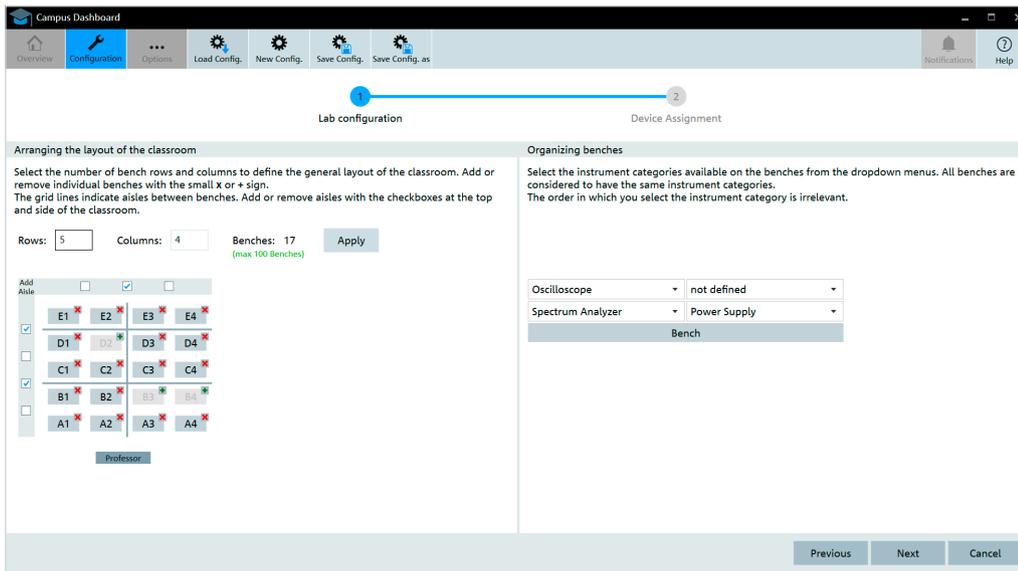
The R&S®CDS campus dashboard software enables simple and time-efficient teaching in multi-user student laboratories

The screenshot displays the R&S®CDS Campus Dashboard software interface. The main area shows a grid of instrument benches labeled A1 through C5. Each bench has a status icon: a blue square for 'Selected', a green square with a play icon for 'In progress', a grey square for 'Connected/no error', a red square with an 'X' for 'Error', an orange square with a triangle for 'Scpi-error', a yellow square with a double-headed arrow for 'Not connected', and a white square with a wrench for 'Not configured'. A 'Professor' role is indicated at the bottom center. The right sidebar contains selection filters for Oscilloscope and Power Supply, a legend for instrument status, and a summary of total instruments.

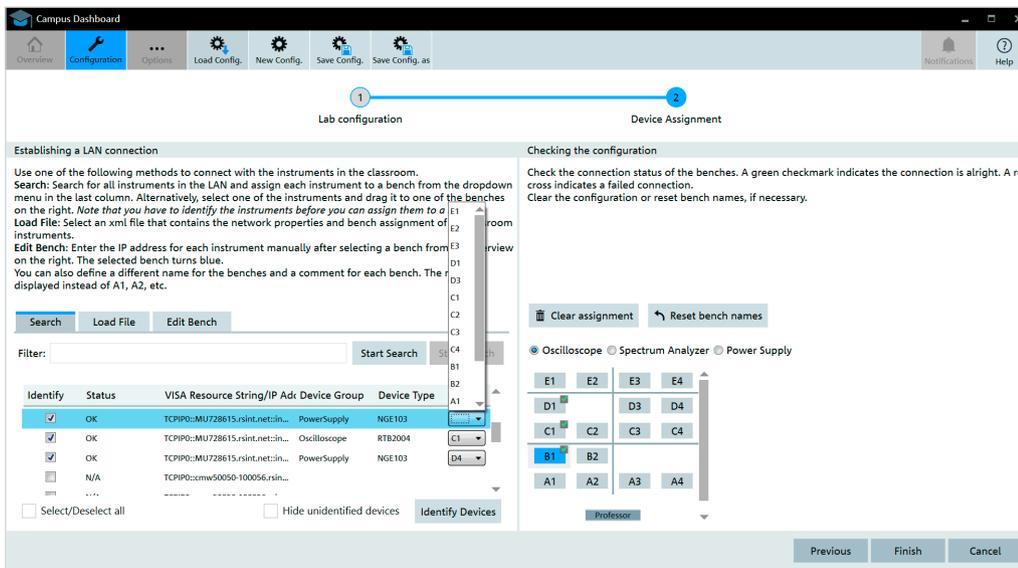
Legend	Count
Selected	12
In progress	0
Connected/no error	0
Error	1
Scpi-error	3
Not connected	8
Not configured	8

Total instruments: 16

Oscilloscope: 16
Power Supply: 16
Bench: 16



Match software layout to your lab arrangement and organize individual benches with up to four instruments each



Search for supported instruments in your local network; drag & drop instruments onto individual benches



View all instruments on a bench on your computer screen using the R&S®CDS campus dashboard software; the software also supports remote control of each instrument



Save/load snapshot

Save/load snapshot

- ▶ Save a snapshot of all instrument settings
- ▶ Reload settings to continue in the next session
- ▶ Save time setting up the instruments for teaching sessions

Just one click saves the current settings of all configured instruments. This snapshot of the entire classroom can be reloaded at any time to restore the settings as long as the same instruments are connected. This function ensures a continuous flow if a teaching lesson has to be split into several sessions.

Create/edit/load exercise

- ▶ Create new exercises according to your curriculum
- ▶ Edit existing lessons to improve your teaching methods
- ▶ Collaborate with other teachers and share your exercises

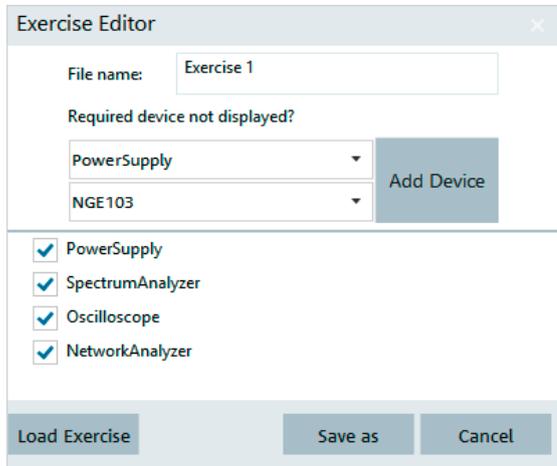
Preparing specific exercises for different instrument types helps students master your curriculum. No matter how many different types of instruments are connected, the exercise function will load the settings to all required instruments. You can prepare your exercises according to your teaching methods. You can also collaborate with other teachers and share your exercises independent of their classroom size and layout.

Load and retrieve settings and firmware updates

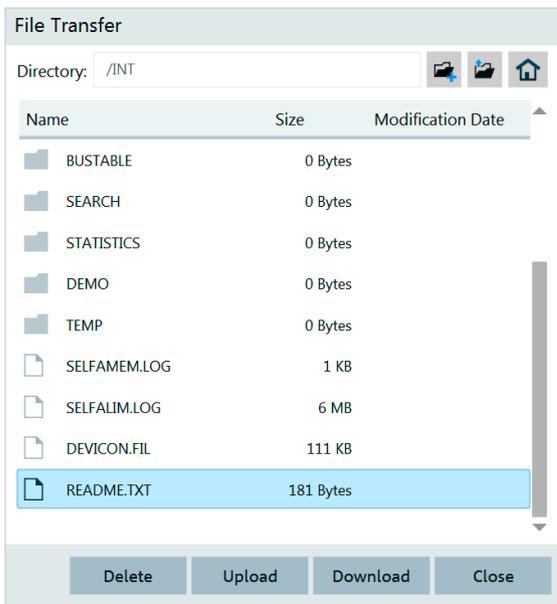
- ▶ Simultaneous configuration of multiple instruments of the same type
- ▶ Identical teaching procedures for student groups
- ▶ Simultaneous firmware updates of several instruments

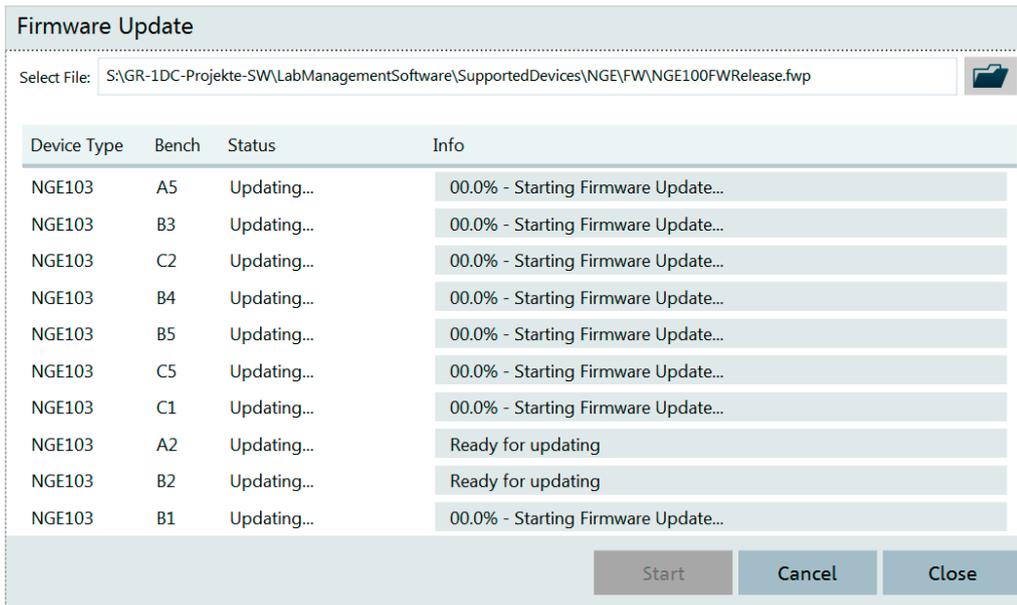
The ability to configure several instruments at the same time is crucial to generating identical training conditions for student groups. Updating multiple instruments simultaneously saves time, boosts efficiency and keeps the lab environment up to date. The file transfer function makes it possible to store, download and delete files from the instruments.

Create/edit/load exercise



Delete, upload and download files on each instrument remotely





Launch simultaneous firmware updates on several instruments with one click

SPECIFICATIONS IN BRIEF

Specifications in brief

Supported instruments

Oscilloscopes	R&S®RTC1000, R&S®RTB2000, R&S®RTM3000, R&S®RTA4000
Spectrum analyzers	R&S®FSH, R&S®FSC, R&S®FPH, R&S®FPC1000, R&S®FPC1500
Network analyzers	R&S®ZVH, R&S®ZPH
Power supplies	R&S®NGE100, R&S®NGE100B
Other instruments on request.	

Minimum system requirements

HDD	300 Mbyte
RAM	3 Gbyte
Operating system	Windows 7 (or later), 64 bit

ORDERING INFORMATION

Two license models are available for the R&S®CDS campus dashboard software. Both require a hardware USB dongle for operation:

- ▶ The local license requires that the R&S®CDS-LL USB dongle be connected to the computer that runs the R&S®CDS campus dashboard software. In this case, the software can only be operated on this computer.
- ▶ The floating license requires that the R&S®CDS-FL USB dongle be connected to a server in the local network. In this case, the license can be used on different computers, but only on one computer at a time.

Designation	Type	Order No.
Campus dashboard (local license and dongle)	R&S®CDS-LL	1337.9817P02
Campus dashboard (floating license and dongle)	R&S®CDS-FL	1337.9817P03

Service that adds value

- ▶ Worldwide
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- ▶ Customized and flexibel
- ▶ Uncompromising quality
- ▶ Long-term dependability

Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, monitoring and network testing. Founded more than 80 years ago, the independent company which is headquartered in Munich, Germany, has an extensive sales and service network with locations in more than 70 countries.

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R&S®CDS Campus Dashboard Software

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