PLUG-IN ELECTRONIC GMBH

DATENBLATT

DASYLab

HABEN SIE FRAGEN ODER
WÜNSCHEN SIE EIN INDIVIDUELLES ANGEBOT?
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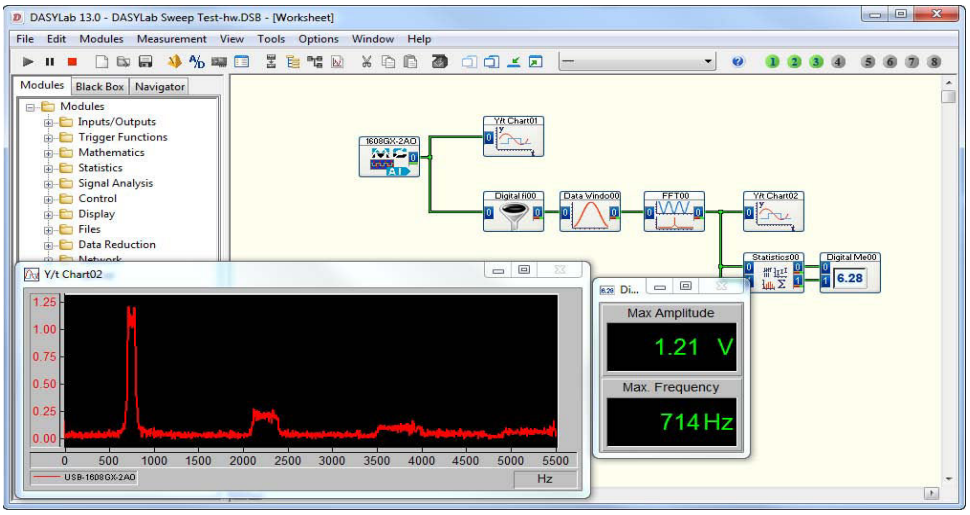
DASYLab®
Data Acquisition System Laboratory

MEASUREMENT COMPUTING

Features

- Create complex applications in minimal time without programming
- Build worksheets by connecting graphical functions and configuring parameters
- Perform calculation and real-time operations with live data, and output data to hardware (includes PID control)
- Provides standard real-time displays (charts, meters, graphs)
- Use layout windows to create simple custom displays and reports for operational end users
- Provides a complete library of math, trigonometry, Boolean, custom formula, statistics, signal analysis/control, and data manipulation/storage functions
- Includes generator functions to simulate inputs
- Switch, Slider, and Coded Switch controls allow user interactions
- Black Box module lets you create up to 256 levels of sub-worksheets
- Provides serial, OPC, ODBC, TCP/IP, Modbus, and network inter¬face functions
- Supports data acquisition hardware from Measurement Computing and other vendors
- New Script module allows creation of custom functions
- Includes example worksheets, online help, and a printed tutorial
- Compatible with 32- and 64-bit[1] versions of Windows® 8/7/Vista® (SP2)/XP Pro (SP3) operating systems and multi-processor PCs



Overview

With DASYLab, you can interactively develop PC-based data acquisition applications by simply attaching functional icons. DASYLab offers real-time analysis and control, and the ability to create custom GUIs. What's more, unlike other graphical programming environments which can require weeks of training to master, DASYLab has a very short learning curve. Many applications can be configured in a few minutes, rather than days or weeks.

Extensive Hardware Support

DASYLab supports all Measurement Computing data acquisition hardware, as well as a host of hardware from over 20 vendors. Choose from a wide-variety of I/O functions, such as analog, digital, counter/timer, IEEE 488, RS-232, DDE, and Modbus, plus any I/O device supported by an OLE for Process Control (OPC) driver.

Effortless Setup

To set up an application, simply place the icons you want on your worksheet. Connecting icons together requires very little effort – simply click and drag them together or drag the output box of one functional icon to the input box of another functional icon (for example, statistics).

Custom, Real-Time Data Display

DASYLab provides a comprehensive selection of real-time display format capabilities for easy development of custom displays. You also have your choice of a host of other features such as limit and trend indicators and the ability to zoom and scroll waveforms, plus display overlapping traces and waterfall plots.

Powerful, Real-Time Data Analysis and Control

DASYLab includes a wide range of real-time data analysis and control functions for easy development of custom applications. Within these groups, there are specific modules for performing FFTs, digital filtering, polynomial and linear regression, logical operations, and much more. These modules all have simple set up with point and click configuration, allowing complex calculations to be set up in seconds.

1 DASYLab runs as a 32-bit application on 64-bit operating systems.

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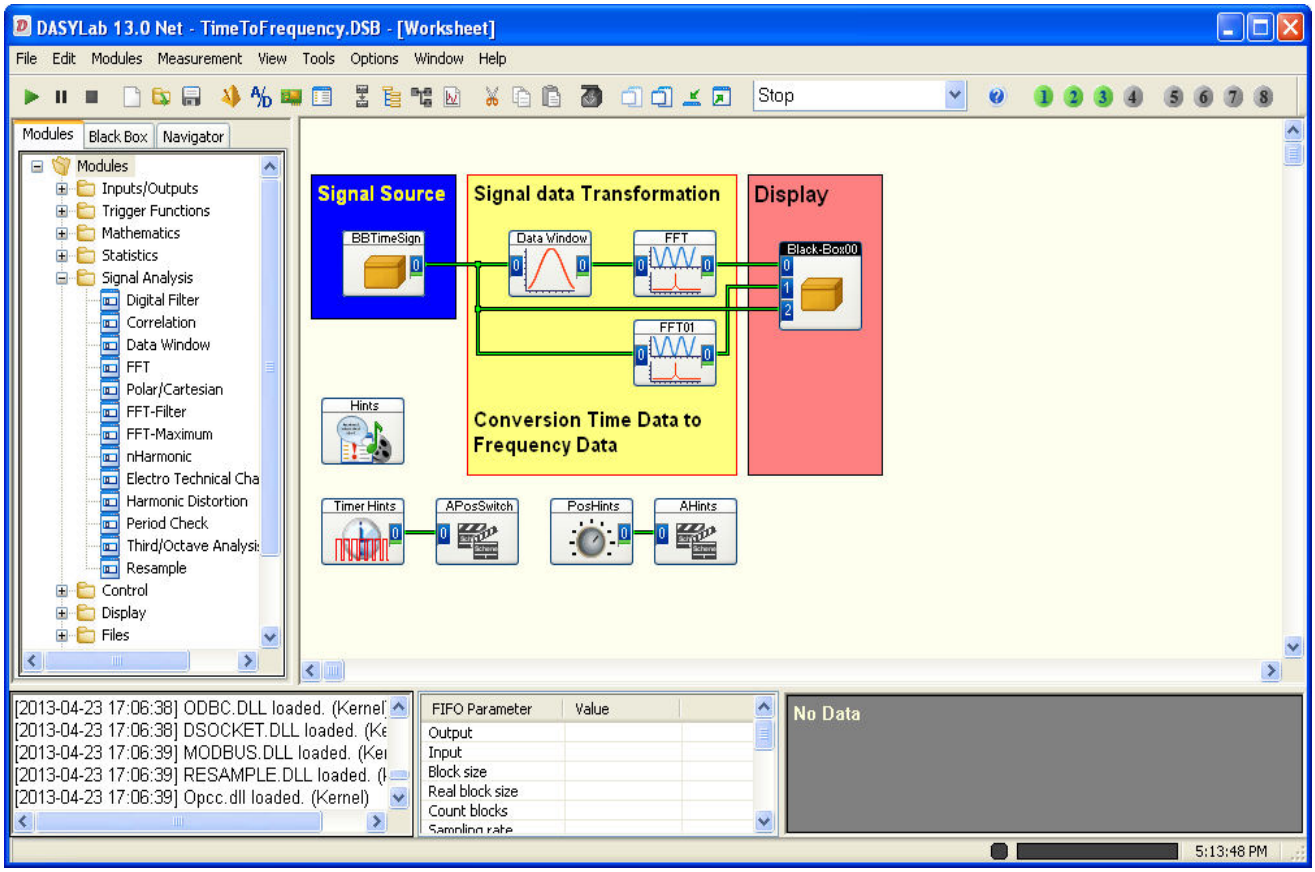

Worksheet

The Worksheet is where you create the data flow logic for the application. Select and combine the desired function modules and connect them with wires that represent the data flow.

The browser window displays a tree structure containing all available function modules as well as any saved black boxes. It also contains a navigator to quickly find specific modules in a worksheet. The console window displays graphical and numerical information about content and structure of the data flow.

Dialog Boxes and Displays

Use the Module Properties dialog box to easily configure the number of channels and other parameters for each function module.

Use the different displays in DASYLab to represent your data online. Interactively zoom and view cursor measurements online or offline.

Control Sequencer

The DASYLab Full and Pro versions include the Control Sequencer, a tool designed to control sophisticated applications consisting of more than one DASYLab worksheet. The Control Sequencer supervises the execution of worksheets based on user-defined conditions and events. You can define multiple actions for each worksheet to control the flow of the application. The Control Sequencer setup window organizes the worksheets in a tree, showing the actions and associations for each worksheet.

Layouts and Reports

Use DASYLab layout windows to create a clear and informative presentation of your data and results. Represent your data in scope displays, numerical listings, chart recorders, or bar graphs, just by placing the corresponding objects in the layout and connecting them to the worksheet modules. Use text or graphical elements to enhance the clarity and usability of your application.

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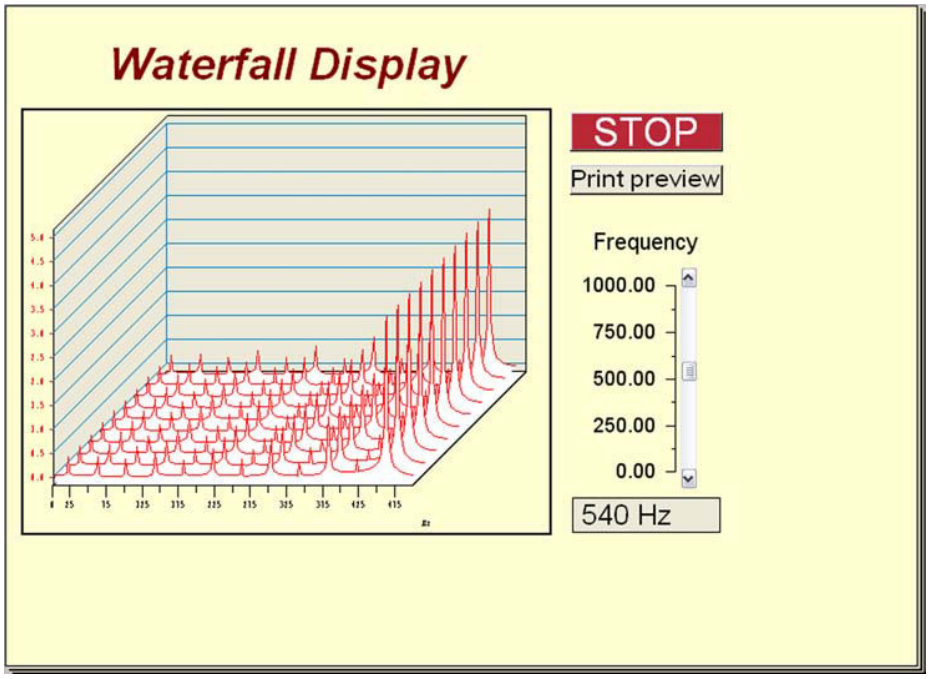
Create Custom Graphical User Interfaces

Use the integrated layout windows in DASYLab to create custom GUIs, allowing you to present screens that contain only the information pertinent to a specific test. Simply use the tool box to draw and place switches, charts, digital and analog indicators, text, and your own custom bitmap images.

One DASYLab Full or Pro application can contain up to 200 animated screens, and each screen can be dynamically activated based on prescribed conditions within a test or process. Layout windows allow you to automatically print out any of the screens when predetermined conditions are met. As a result, generating custom reports and documentation is as easy as creating graphical user interfaces



DASYLab Help and Example Programs

The DASYLab help contents lists the help sections for the installed standard drivers and the example programs.

The DASYLab collection of example worksheets demonstrate the working method of the modules in the data flow. You can copy the path of a worksheet from the help menu and run them in DASYLab. Use these worksheets as templates for your own worksheets.

The *DASYLab User Manual* (dasylab.pdf on the installation CD) includes a with a quick start tutorial with step-by-step instructions on how to perform various DASYLab tasks.

Version Selection

Choose from the four different DASYLab versions to get the exact features that you need.

DASYLab Lite (Limited Version)

- Ideal for data logging and monitoring
- Supports 32 analog inputs on two devices, and up to 64 worksheet wires
- Includes most drivers
- Supports one layout window for advanced user display management or reporting

DASYLab Basic (Standard Version)

- Supports unlimited worksheet wires
- Supports up to 256 analog inputs and one layout window
- Includes all drivers (Microstar DAP premium driver priced separately); some drivers available by download from the vendor (Data Translation®, UEI, ICP-DAS)
- Includes PID, Statistics, Formula, FFT, Filter and other analysis features
- Includes control functions, Two-point Control, Switch, Slider, Coded Switch, as well as flexible triggers and comparison modules

DASYLab Full (Advanced Version)

- Includes all standard modules (standard Signal Analysis modules, all Action and Action-enabled modules)
- Supports up to 200 layout windows
- Includes the powerful Control Sequencer module for controlling a series of test worksheets

DASYLab Pro (Complete Version)

- Includes the full set of modules – Control Sequencer, all signal analysis tools, the Sequence Generator, and all available add-on modules (without third-party modules)
- Also offers the suite of network modules

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DASYLab Version Comparison Chart

Module Group	Lite	Basic	Full	Pro
Inputs and Outputs				
DDE Input/Output	✔	✔	✔	✔
RS232/Serial				
Input	✔	✔	✔	✔
Output	✗	✔	✔	✔
ICom TCP/IP				
Input	✔	✔	✔	✔
Output	✗	✔	✔	✔
IEEE 488 (GPIB) Input/Output	✗	✔	✔	✔
MODBUS Inputs and Outputs	✔	✔	✔	✔
OPC Input/Output	✔	✔	✔	✔
IVI Device Classes				
Counter	✔	✔	✔	✔
DC Power	✔	✔	✔	✔
DMM	✔	✔	✔	✔
Scope	✔	✔	✔	✔
Switch	✔	✔	✔	✔
Standard Drivers (Analog, Digital, Counter I/O)				
Measurement Computing	✔	✔	✔	✔
IOtech	✔	✔	✔	✔
Omega Engineering	✔	✔	✔	✔
Newport Engineering	✔	✔	✔	✔
National Instruments XNET/CAN/LIN	✔	✔	✔	✔
IXXAT CAN	✔	✔	✔	✔
Vector CAN	✔	✔	✔	✔
Microstar DAP (premium driver)	✗	✔	✔	✔
Trigger				
Combi Trigger	✗	✔	✔	✔
Pre/Post Trigger	✔	✔	✔	✔
Start/Stop Trigger	✗	✔	✔	✔
Trigger on Demand	✗	✔	✔	✔
Sample Trigger	✗	✔	✔	✔
Relay	✔	✔	✔	✔
Mathematics				
Formula Interpreter	✗	✔	✔	✔
Arithmetic	✔	✔	✔	✔
Comparator	✔	✔	✔	✔
Trigonometry	✗	✔	✔	✔
Scaling	✔	✔	✔	✔
Differentiation/Integration	✗	✔	✔	✔
Logical Operations	✗	✔	✔	✔
Slope Limitation	✗	✔	✔	✔
Bit Logic	✗	✔	✔	✔
Gray Code	✗	✔	✔	✔
Flip Flop	✗	✔	✔	✔
Create Reference Curve	✗	✔	✔	✔

Module Group	Lite	Basic	Full	Pro
Statistics				
Statistical Values	✗	✔	✔	✔
Position in Signal	✗	✔	✔	✔
Histogram Classification	✗	✔	✔	✔
Regression	✗	✔	✔	✔
Rainflow Classification	✗	✗	✗	✔
Two Channel Classification	✗	✗	✗	✔
Counter	✗	✔	✔	✔
Minimum/Maximum	✗	✔	✔	✔
Sort Channels	✗	✔	✔	✔
PWM Pulse Analysis	✗	✔	✔	✔
Check Reference Curve	✗	✔	✔	✔
Signal Analysis				
Digital Filter	✗	✔	✔	✔
Correlation	✗	✔	✔	✔
Data Window	✗	✔	✔	✔
FFT	✗	✔	✔	✔
Polar/Cartesian	✗	✔	✔	✔
Electro Technical Characteristics	✗	✗	✔	✔
Harmonic Distortion	✗	✗	✔	✔
Period Check	✗	✗	✔	✔
FFT Filter	✗	✗	✗	✔
FFT Maximum	✗	✗	✗	✔
Third/Octave Analysis	✗	✗	✗	✔
nHarmonic	✗	✗	✗	✔
Resample	✗	✗	✗	✔
Control				
Generator	✔	✔	✔	✔
Stop	✗	✔	✔	✔
Switch	✗	✔	✔	✔
Coded Switch	✗	✔	✔	✔
Slider	✗	✔	✔	✔
PID Control	✗	✔	✔	✔
Two-Point Control	✗	✔	✔	✔
Time Delay	✗	✔	✔	✔
TTL Pulse Generator	✗	✔	✔	✔
Latch	✗	✔	✔	✔
Signal Router	✗	✔	✔	✔
Block Time Info	✔	✔	✔	✔
Global Variable Read/Write	✔	✔	✔	✔
Sequence Generator	✗	✗	✗	✔
Display				
Y/t Chart	✔	✔	✔	✔
X/Y Chart	✗	✔	✔	✔
Polar Plot	✗	✔	✔	✔
Chart Recorder	✔	✔	✔	✔
Diagram Chart	✔	✔	✔	✔
Analog Meter	✔	✔	✔	✔
Digital Meter	✔	✔	✔	✔
Bar Graph	✔	✔	✔	✔
Status Lamp	✔	✔	✔	✔
List Display	✔	✔	✔	✔
Files				
Read Data	✔	✔	✔	✔
Write Data	✔	✔	✔	✔
Backup Data	✗	✗	✔	✔
ODBC In/Out	✗	✗	✔	✔

Module Group	Lite	Basic	Full	Pro
Data Reduction				
Average	✔	✔	✔	✔
Block Average/Peak Hold	✔	✔	✔	✔
Separate	✗	✔	✔	✔
Multiplexer/Demultiplexer	✗	✔	✔	✔
Shift Register	✔	✔	✔	✔
Cut Out	✗	✔	✔	✔
Time Slice	✗	✔	✔	✔
Circular Buffer	✗	✗	✔	✔
Network				
Net Input/Output	✗	✗	✗	✔
Message Input/Output	✗	✗	✗	✔
DataSocket Import	✔	✔	✔	✔
DataSocket Export	✗	✔	✔	✔
Special				
New Black Box	✗	✔	✔	✔
Black Box Export/Import	✗	✔	✔	✔
Action	✗	✗	✔	✔
Message	✗	✗	✔	✔
E-Mail	✗	✗	✔	✔
Time Base	✗	✔	✔	✔
Signal Adaptation	✗	✔	✔	✔
Script Creation/Editing/Packaging	✗	✗	✔	✔
Script-based Module Packages	✔	✔	✔	✔
Add-On				
Transfer Function	✗	✗	✗	✔
Convolution	✗	✗	✗	✔
Block Weighting	✗	✗	✗	✔
Universal Filter	✗	✗	✗	✔
Save Universal File	✗	✗	✗	✔
Control Sequencer	✗	✗	✔	✔
Number of Layout Pages	1	1	200	200

Legend

✔ - **Included**
✗ - **Not Included**

Notes

DASYLab Lite is limited to a maximum of 64 data connection wires.
Driver features vary by manufacturer and device.
Software features may vary by country.

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What's New in DASYLab 13

Python™ Script Module

Create a custom function module using the new Script module. The Script module uses the open-source Python scripting environment (version 2.65).

With the Script module, users can write a custom computation, create a driver to communicate with hardware and software, and configure module and channel parameters.

For example, you can create a custom temperature scaling module that takes one temperature input and outputs the temperature data in three different units.

Resample Module

Transform data from a time axis on an angle axis in order to analyze measurement data from rotating systems using the new Resample module. The module converts vibrations on a concentric axis to the rotation angle.

File Format (.csv) Added to Write Data Module

Write data to a comma-separated values (.csv) text file using the new *ASCII (CSV Preset)* file format available in the Write Data module..

IVI Scope Module

Continuously display data from external devices which support the IVI Scope instrument class using the new IVI Scope Module.

NI-XNet Module

Acquire and output data with National Instruments NI-XNET hardware using the new NI-XNET driver module. NI-XNET hardware supports the controller area network (CAN) and local interconnect network (LIN) bus systems. A database file in field bus exchange (FIBEX) format describes the network (cluster) and the transferred data packages (frames). Every frame has several signals which contain the actual measurement data.

Improvements Throughout the Program

- **IVI Error Support** – IVI modules now display both an error code and error description generated by the hardware driver.
- **CAN Module Options** – New Remote Flag option sets the remote flag of an output telegram, and new Stop Value option sends the last CAN telegram with a previously defined value when the measurement stops.
- **Combi Trigger Retrigger Support** – New option retriggers the Combi Trigger module when it is already in a triggered state.
- **NI-DAQmx Stop On Error Option** – NI-DAQmx support includes a new options to stop a measurement when an error occurs.
- **Sequence Generator Text Export** – The Sequence Generator module now exports the sequence portion to a `.csv` file.
- **IVI DCPower and IVI Switch Module Outputs** – Outputs added to these two IVI modules.
- **Real Timestamp Added to Average Module** – Option added to use the timestamp of the last value of the input block.

Continued Support in DASYLab 13

DASYLab 13 continues our commitment to deliver an easy-to-use data acquisition application that requires no programming. Whether they are scientists or engineers, DASYLab users can focus on their particular areas of expertise, while tapping into the power of the display, analysis, and control features needed to fully process measurement data.

IVI Drivers: DASYLab 13 continues support for Interchangeable Virtual Instruments (IVI) using National Instruments™ (NI) software and drivers. IVI is a revolutionary standard for instrument driver software technology. IVI builds on the VXI***plug&play*** specifications and incorporates new features that address issues such as system performance, development flexibility, and instrument interchangeability. IVI drivers also take advantage of the power of the VISA I/O library defined by VXIplug&play to seamlessly communicate with instruments across different I/O buses such as GPIB, VXI, PXI, Serial, Ethernet, and USB.

The IVI Foundation is the industry consortium that drives this standardization effort. Formed by NI in August of 1998, the IVI Foundation has grown to more than 25 members, including end-users, system integrators, and software and instrument vendors. The goals of the Foundation are to define standard specifications for programming common test instrument capabilities. The Foundation delivers specifications for interchangeable, better performing, and more easily maintainable instrument drivers.

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Try DASYLab for 28 Days

You can download the *DASYLab V13 Evaluation* version and try this graphical programming software for 28 days. Go to www.mccdaq.com/software.aspx and click on the *DASYLab V13 Evaluation Copy* link.

System Requirements

For the correct DASYLab performance the following minimum requirements must be met:

Hardware

- **CPU** – x86 compatible processor, 1 GHz or more
- **Memory** – At least 1 GB, 2 GB or more recommended
- **Hard Drive** – 250 MB free storage space, of which at least 200 MB is on the system partition
- **Graphics Board** – Color depth at least 16 bit (High Color), recommended 24- or 32-bit (True Color)
- **Screen Resolution** – At least 1024 × 768
- **Mouse** – A windows pointing device, such as a mouse, is required to develop a worksheet

Operating Systems (32- and 64-bit Versions)

Not every DASYLab driver supports all of the following operating systems. DASYLab runs as a 32-bit application on 64-bit operating systems.

- Windows 8
- Windows 7
- Windows Vista with Service Pack 2
- Windows XP Pro with Service Pack 3

Ordering Information

Description	Part No.
Lite version, includes all drivers; comes without analysis, limited module count, and one layout window	DASYLab LITE
Basic version, includes all drivers; comes with all standard modules (except Signal Analysis and Actions), and one layout window	DASYLab BASIC
Full version, includes all drivers; comes with all standard modules, 200 layout windows, and Control Sequencer	DASYLab FULL
Pro version, includes all drivers; includes Full version plus all add-on modules (without third-party modules)	DASYLab PRO
Runtime license for DASYLab	DASYLab RUNTIME

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