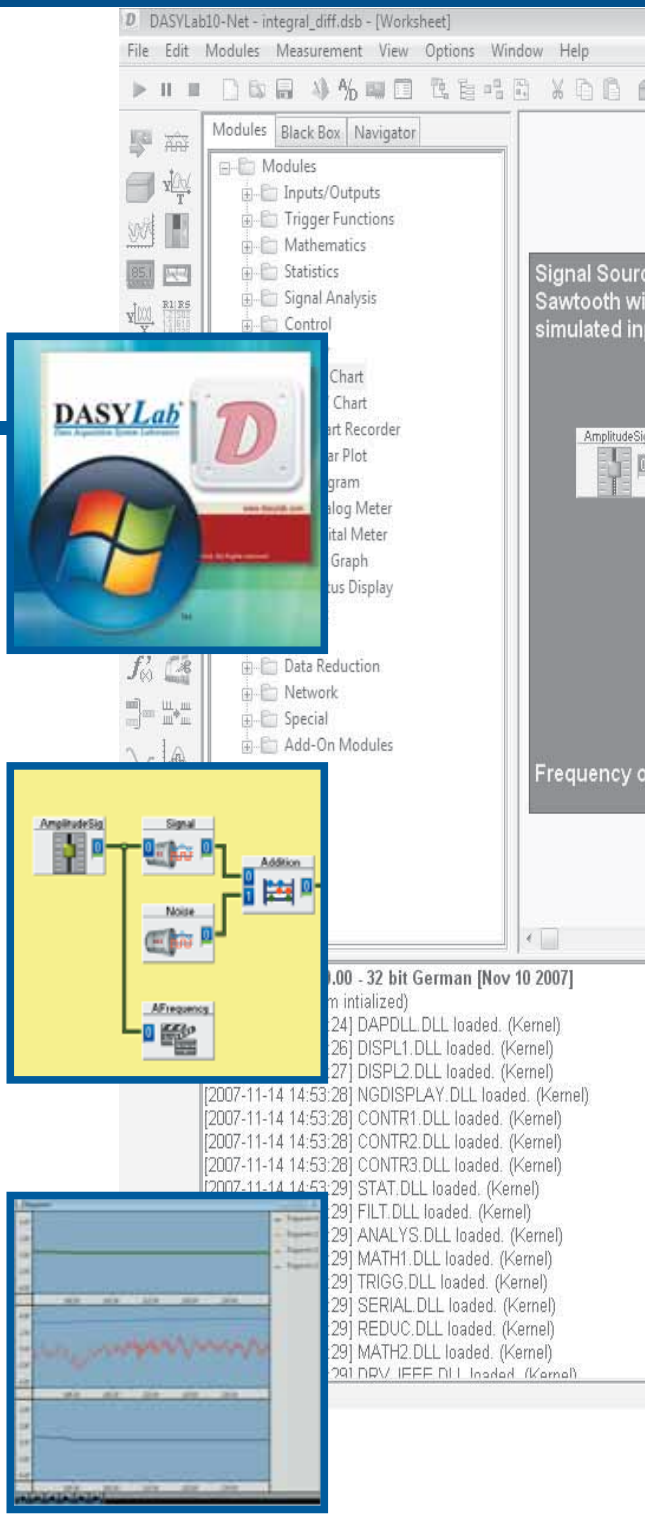
# Online Data Acquisition and Analysis

# DASYLab 10

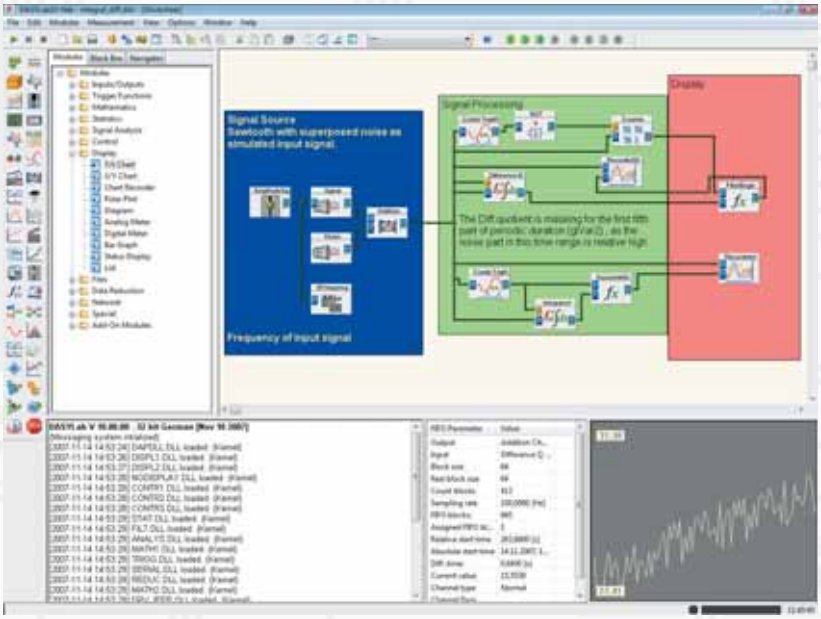
*Data Acquisition System Laboratory*




- Measurement and controlling with Windows™
- Flexible configuration of user interfaces and displays
- Easy generation of protocol and presentation sheets
- Compatible with DAQ hardware of most manufacturers
- Expandable with individually defined functions
- Windows™ Vista™ compatible

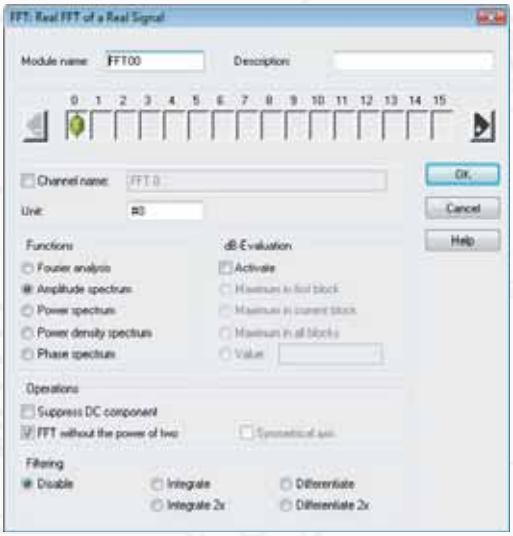
**easy-to-use – flexible – powerful**

# DASYLab Window



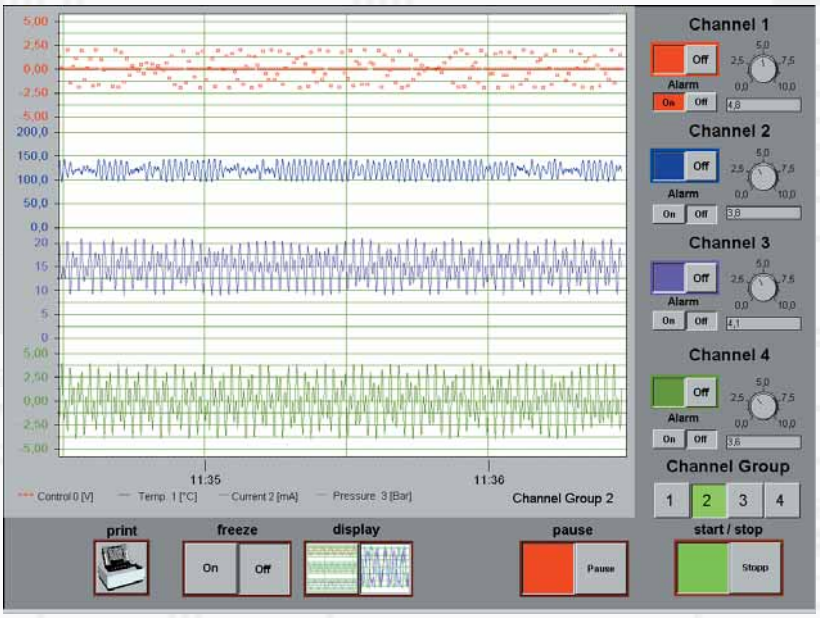
## Worksheet

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 block 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.




## Dialogs

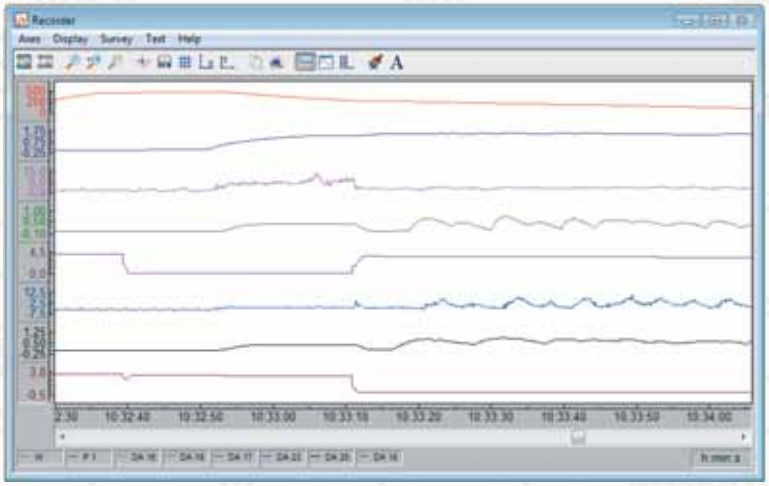
No programming required! Configure modules easily using the Module Properties dialog boxes.
Easily specify the capability of each function block, the number of channels and the parameter settings.




## Layouts

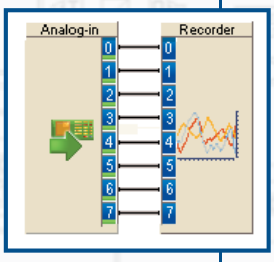
Use the layout view to create the operator interface to work with your application and to define the structure and content of professional reports. For each application you have 200 pages to display your data and results.

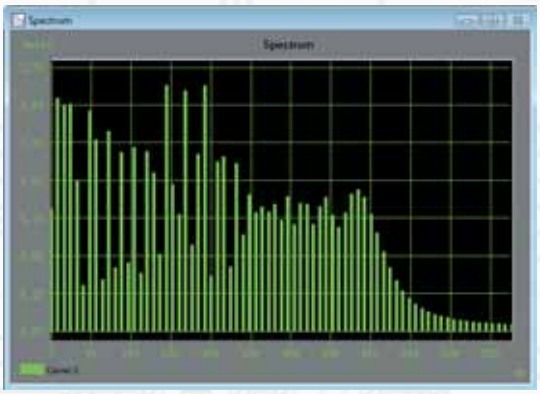
# Five easy solutions <for convincing results>



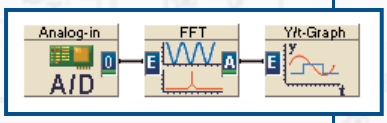
... one module for a data logger ...

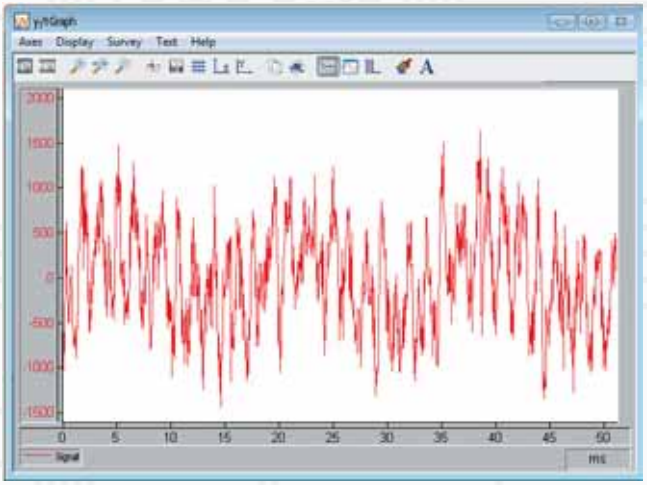

... two modules for a chart recorder ...



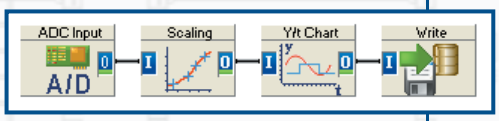



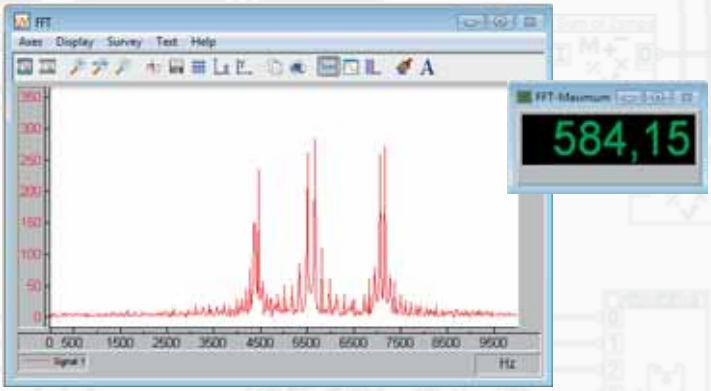
... three modules for a frequency analyser



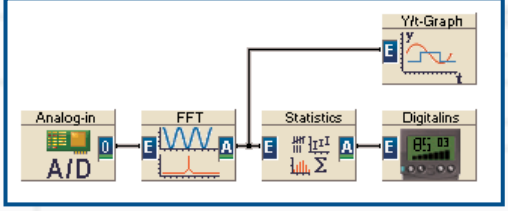



... four modules for a storage oscilloscope with individual scaling ..




... five modules for acquisition, display, frequency analysis and statistics of your data

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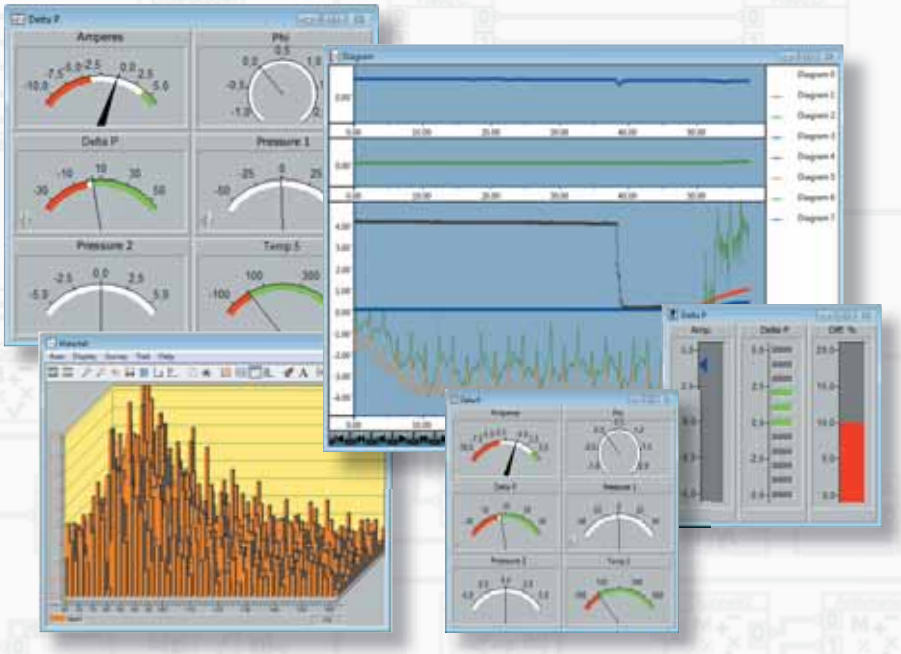
# DASYLab Display Options

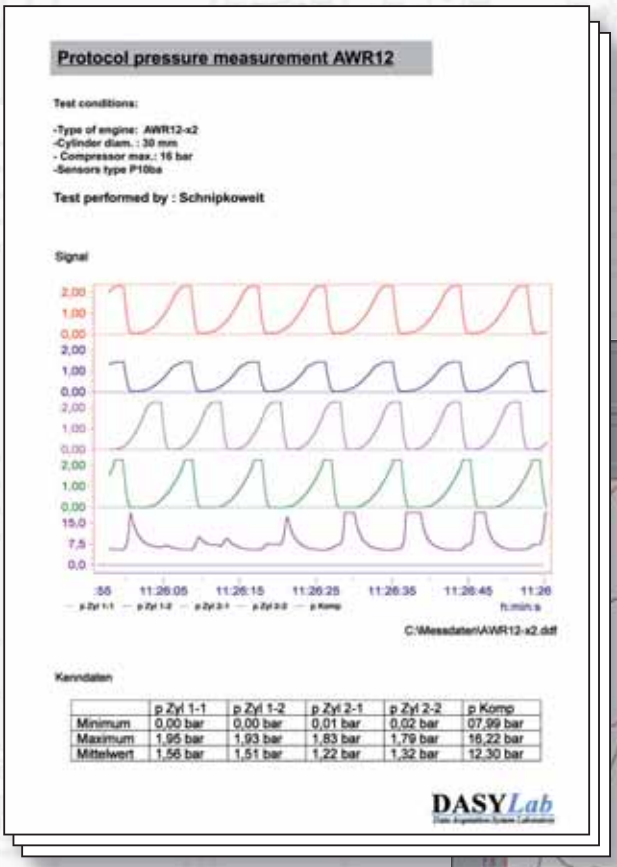
## Displays

Use the different displays in DASYLab to represent your data online. Interactively zoom and view cursor measurements on or off-line..



## Layouts and Reports

Use the 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 useability of your application.



Protocol pressure measurement AWR12

Test conditions:

-Type of engine: AWR12-x2
-Cylinder diam. : 30 mm
- Compressor max.: 16 bar
-Sensors type P10ba

Test performed by : Schnipkoweit

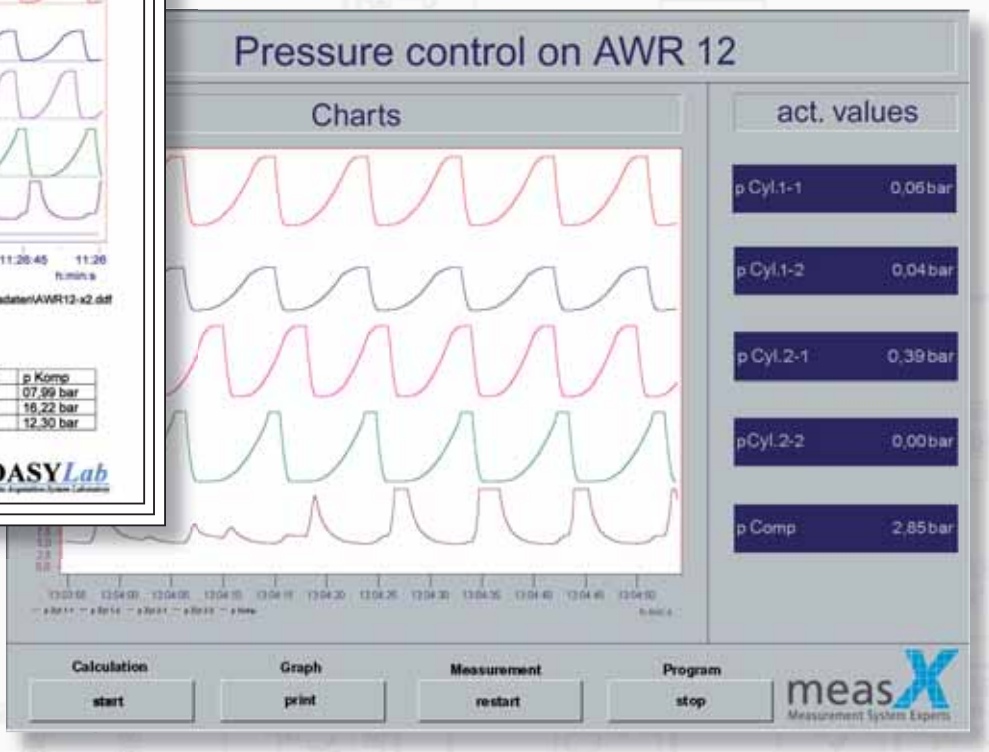
Signal

C:\Messdaten\AWR12-x2.ddf

Kenndaten

| | p Zyl 1-1 | p Zyl 1-2 | p Zyl 2-1 | p Zyl 2-2 | p Komp |
|---|---|---|---|---|---|
| Minimum | 0,00 bar | 0,00 bar | 0,01 bar | 0,02 bar | 07,99 bar |
| Maximum | 1,95 bar | 1,93 bar | 1,83 bar | 1,79 bar | 16,22 bar |
| Mittelwert | 1,56 bar | 1,51 bar | 1,22 bar | 1,32 bar | 12,30 bar |

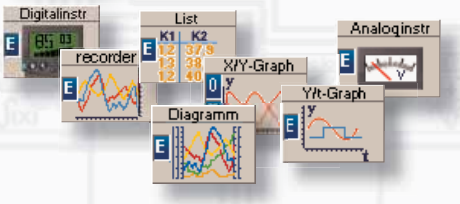
DASYLab



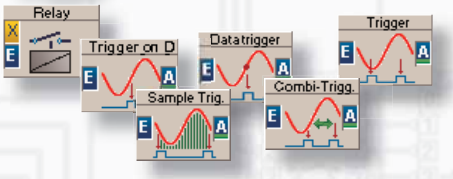
# DASYLab Features

You can choose between four different DASYLab Versions to get exactly the features that you need. The light version contains the basic functions for PC-based data acquisition and representation. The basic version comes with additional mathematical and statistical functions as well as basic control modules. The full version comes with additional blocks for automation of measurement and analysis tasks. The professional version contains the network functionality, frequency and Rainflow analysis as well as a setpoint generator module.

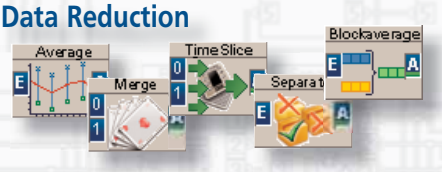
## Displays




## Trigger

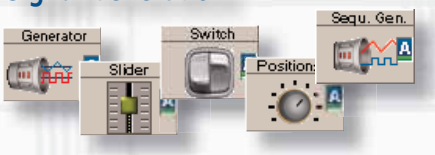



## Data Reduction

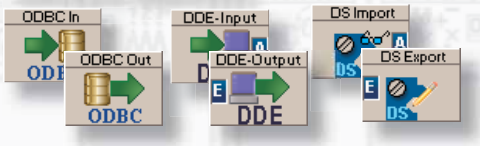



## Event driven Actions

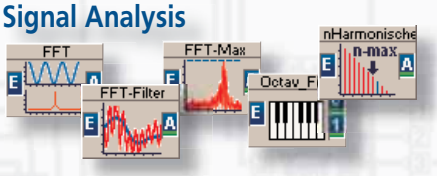

## Signal Generation




## Software Interfaces




## Signal Analysis




| | Lite | Basic | Full | Pro |
|---|---|---|---|---|
| **Trigger Functions** | | | | |
| Pre/Post Trigger | ● | ● | ● | ● |
| Start/Stop Trigger | ○ | ● | ● | ● |
| Combi Trigger | ○ | ● | ● | ● |
| Sample Trigger | ○ | ● | ● | ● |
| Trigger on Demand | ○ | ● | ● | ● |
| Relay | ● | ● | ● | ● |
| **Mathematics** | | | | |
| Formula Module | ○ | ● | ● | ● |
| Arithmetic | ● | ● | ● | ● |
| Comparator | ○ | ● | ● | ● |
| Trigonometry | ○ | ● | ● | ● |
| Scaling | ● | ● | ● | ● |
| Differentiation/Integration | ○ | ● | ● | ● |
| Logical Operations | ○ | ● | ● | ● |
| Bit-Logic | ○ | ● | ● | ● |
| Flip Flop | ○ | ● | ● | ● |
| Gray Code | ○ | ● | ● | ● |
| Slope Limitation | ○ | ● | ● | ● |
| Reference Curve | ○ | ● | ● | ● |
| **Statistics** | | | | |
| Statistical Values | ○ | ● | ● | ● |
| Position in Signal | ○ | ● | ● | ● |
| Histogram | ○ | ● | ● | ● |
| Rainflow | ○ | ○ | ✶ | ● |
| Two channel counting | ○ | ○ | ✶ | ● |
| Regression | ○ | ● | ● | ● |
| Counter | ○ | ● | ● | ● |
| PWM Analysis | ○ | ● | ● | ● |
| Min/Max | ○ | ● | ● | ● |
| Sort Channels | ○ | ● | ● | ● |
| Check Reference Curve | ○ | ● | ● | ● |
| **Signal Analysis** | | | | |
| Filter | ○ | ● | ● | ● |
| Correlation | ○ | ● | ● | ● |
| Data Window | ○ | ● | ● | ● |
| FFT | ○ | ● | ● | ● |
| Polar/Cartesian | ○ | ● | ● | ● |
| FFT-Filter | ○ | ○ | ✶ | ● |
| FFT-Maximum | ○ | ○ | ✶ | ● |
| nHarmonic | ○ | ○ | ✶ | ● |
| Electric Characteristics | ○ | ○ | ● | ● |
| Harmonic Distortion | ○ | ○ | ● | ● |
| Period Check | ○ | ○ | ● | ● |
| Third/Octave Analysis | ○ | ○ | ✶ | ● |
| **Control** | | | | |
| Sequence Generator | ○ | ○ | ✶ | ● |
| Generator | ● | ● | ● | ● |
| Switch | ○ | ● | ● | ● |
| Slider | ○ | ● | ● | ● |
| Coded Switch | ○ | ● | ● | ● |
| PID Control | ○ | ● | ● | ● |
| Two-point Control | ○ | ● | ● | ● |
| Time Delay | ○ | ● | ● | ● |
| Latch | ○ | ● | ● | ● |
| Signal Router | ○ | ● | ● | ● |
| TTL Pulse Generator | ○ | ● | ● | ● |
| Stop | ○ | ● | ● | ● |
| Global Variable Read | ● | ● | ● | ● |
| Global Variable Set | ● | ● | ● | ● |
| Blocktime Info | ● | ● | ● | ● |

| | Lite | Basic | Full | Pro |
|---|---|---|---|---|
| **Display** | | | | |
| Y/t Chart | ● | ● | ● | ● |
| X/Y Chart | ○ | ● | ● | ● |
| Chart Recorder | ● | ● | ● | ● |
| Polar Plot | ○ | ● | ● | ● |
| Analog Meter | ● | ● | ● | ● |
| Digital Meter | ● | ● | ● | ● |
| Bar Graph | ● | ● | ● | ● |
| Diagram | ● | ● | ● | ● |
| Status Lamp | ○ | ○ | ● | ● |
| List Display | ● | ● | ● | ● |
| **Files** | | | | |
| Read Data | ● | ● | ● | ● |
| Write Data | ● | ● | ● | ● |
| Backup Data | ○ | ○ | ● | ● |
| ODBC Input | ○ | ○ | ● | ● |
| ODBC Output | ○ | ○ | ● | ● |
| **Data Reduction** | | | | |
| Average | ● | ● | ● | ● |
| Block Average/Peak Hold | ● | ● | ● | ● |
| Separate | ○ | ● | ● | ● |
| Merge/Expand | ○ | ● | ● | ● |
| Shift Register | ● | ● | ● | ● |
| Cut Out | ○ | ● | ● | ● |
| Time Slice | ○ | ● | ● | ● |
| Circular Buffer | ○ | ○ | ● | ● |
| **Network** | | | | |
| Net Import | ○ | ○ | 🖧 | ● |
| Net Export | ○ | ○ | 🖧 | ● |
| Message Import | ○ | ○ | 🖧 | ● |
| Message Export | ○ | ○ | 🖧 | ● |
| DataSocket Import | ○ | ● | ● | ● |
| DataSocket Export | ○ | ● | ● | ● |
| **Special** | | | | |
| New Black Box | ○ | ● | ● | ● |
| Export/Import Module | ○ | ● | ● | ● |
| Action | ○ | ○ | ● | ● |
| Message | ○ | ○ | ● | ● |
| Send E-mail | ○ | ○ | ● | ● |
| Time Base | ○ | ● | ● | ● |
| Signal Adaptation | ○ | ● | ● | ● |
| **Add-on Modules** | | | | |
| Convolution | ○ | ○ | ✶ | ● |
| Weight | ○ | ○ | ✶ | ● |
| Transfer | ○ | ○ | ✶ | ● |
| Universal Filter | ○ | ○ | ✶ | ● |
| Save Universal File | ○ | ○ | ✶ | ● |
| ISO 8041 | ○ | ○ | ✶ | ✶ |
| Sound Level Meter | ○ | ○ | ✶ | ✶ |
| Sound Power Meter | ○ | ○ | ✶ | ✶ |

| Program Options | | | | |
|---|---|---|---|---|
| Sequencer | ○ | ○ | ● | ● |
| Number of VI-Tool pages | 1 | 1 | 200 | 200 |

DASYLab Lite Version is restricted to 64 data channels

| Legend | |
|---|---|
| **Included** in this version | ● |
| **Not included** in this version | ○ |
| Available as **Analysis-Toolkit** or **Addon** module | ✶ |
| Only available with **Net option** | 🖧 |

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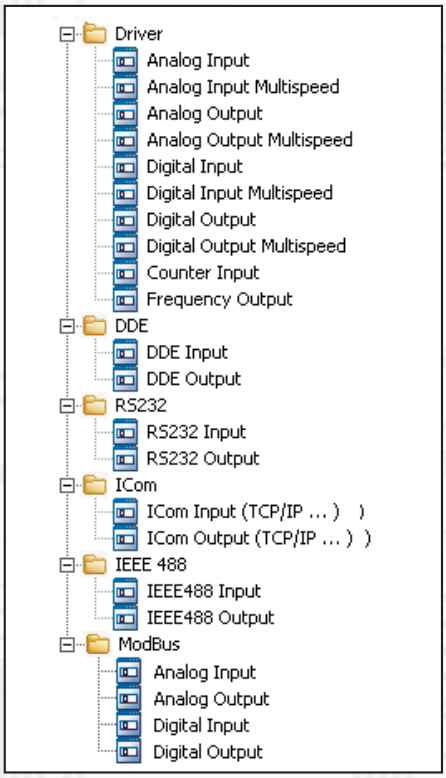
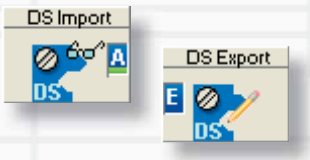
# DASYLab Interfaces

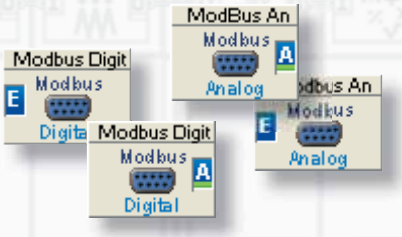
DASYLab supports a wide variety of different data acquisition devices using any kind of available interface to the PC. Whether you have stationary, mobile or in-vehicle application, DASYLab will support the appropriate sources.



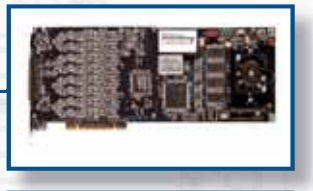

OPC FOUNDATION



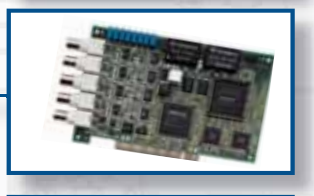

MODBUS.ORG




## DAP Microstar



## PCI



## PXI/Compact-PCI

## USB

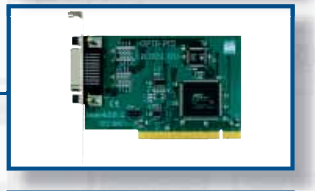
## PC-Card

## CAN

## Ethernet Interface

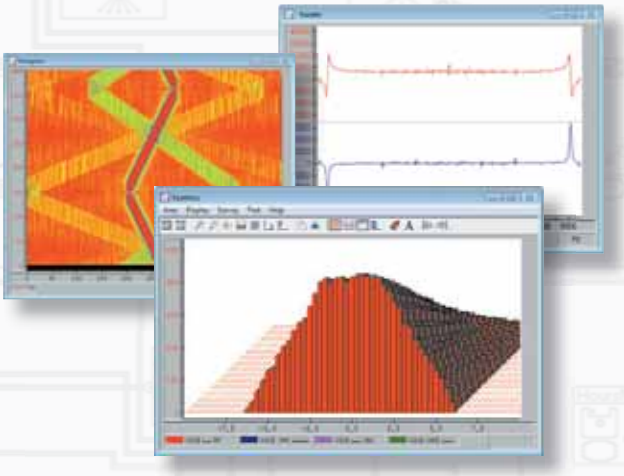
## RS232-Interface

## IEEE Interface



## SPS Simatic S7 Interface

# DASYLab Extensions



## Analysis Toolkit

The analysis toolkit contains a group of modules to analyse a signal in the frequency domain: Octave and third octave analysis, transfer functions, different kinds of filters as well as signal energy calculation.

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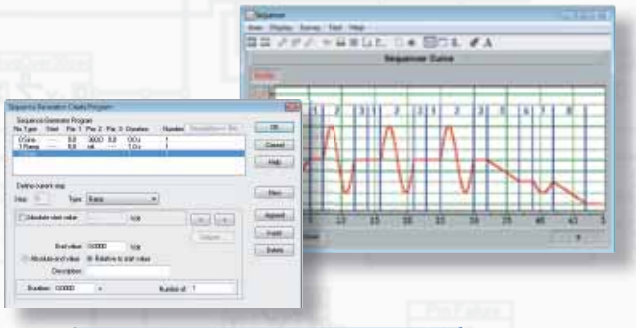
## Sequence Generator

The Sequence generator module gives you the tools to easily create set-point signals for control applications. Curves and ramps of different shapes can be combined to create custom waveforms.

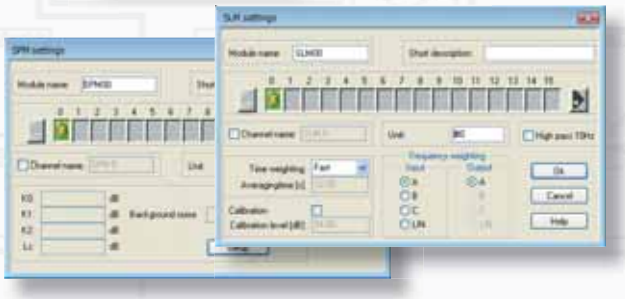


## Net Option

The network communication modules allow fast data and information transfer between different DASYLab applications via TCP/IP.

## Vibration Impact on Human Body

This extension contains the complete analysis and weighting for vibration impact on the human body generated by machines according to ISO 8041.

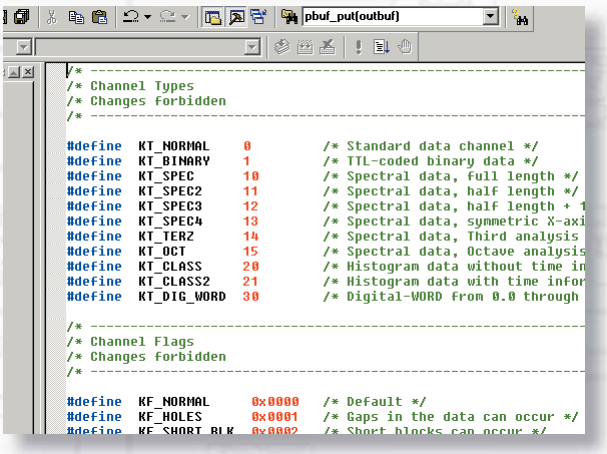


## Acoustics

Sound level and sound power calculation according to the appropriate ISO norms are the central analysis modules of this extension.

## Driver Toolkit

Have your own hardware? The driver toolkit allows you to include any kind of data source in DASYLab. It contains the complete API to develop your own drivers using Microsoft C.




## Extension Toolkit

Need a custom function? Use the extension toolkit to add modules to DASYLab using Microsoft C. Use the working examples as the basis for your modules.

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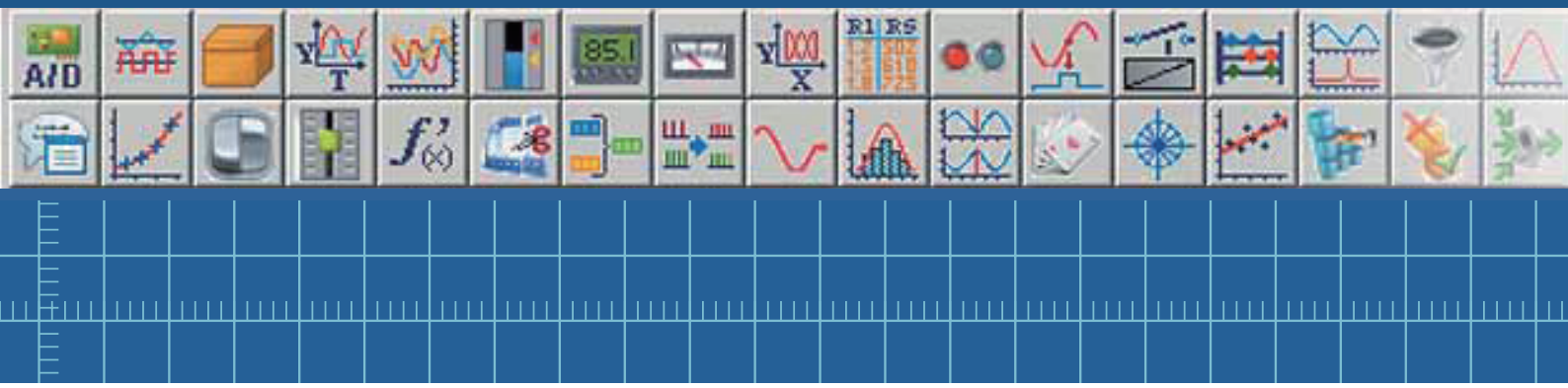

## Distributor

更多信息请联系 Dasylab 中国代理：

北京康泰电子有限公司

010-62329030, 13718232791

www.quatronix-cn.com