

Online Data Acquisition and Analysis

DASYLab 9.0

Data Acquisition System Laboratory

- Create powerful solutions quickly
- Configure flexible displays
- Easily generate reports
- Acquire data from many types of data acquisition hardware
- Extend the capabilities with your own functions

DASYLab
Data Acquisition System Laboratory
Version 9

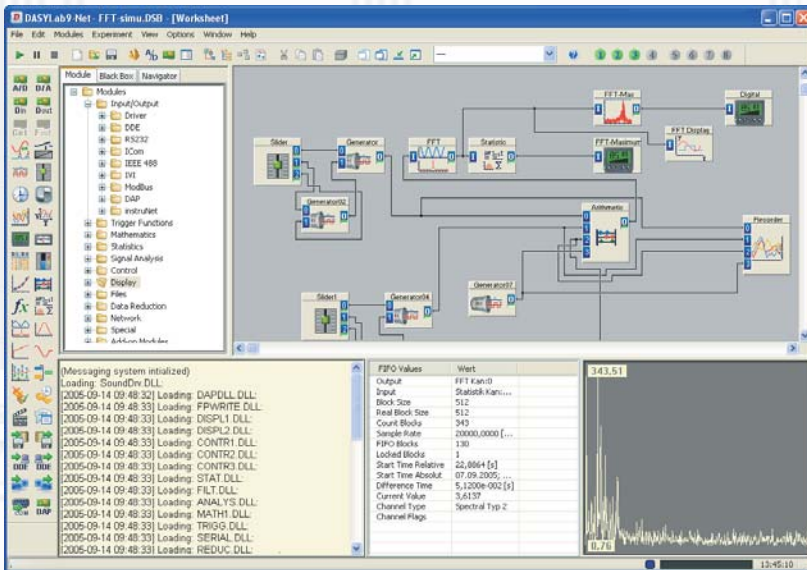
FFT

Output Input

Block Size	512
Block Size	512
Blocks	343
Rate	20000,0000 [...]
Blocks	130
Blocks	1

easy-to-use – flexible – powerful

DASYLab Window

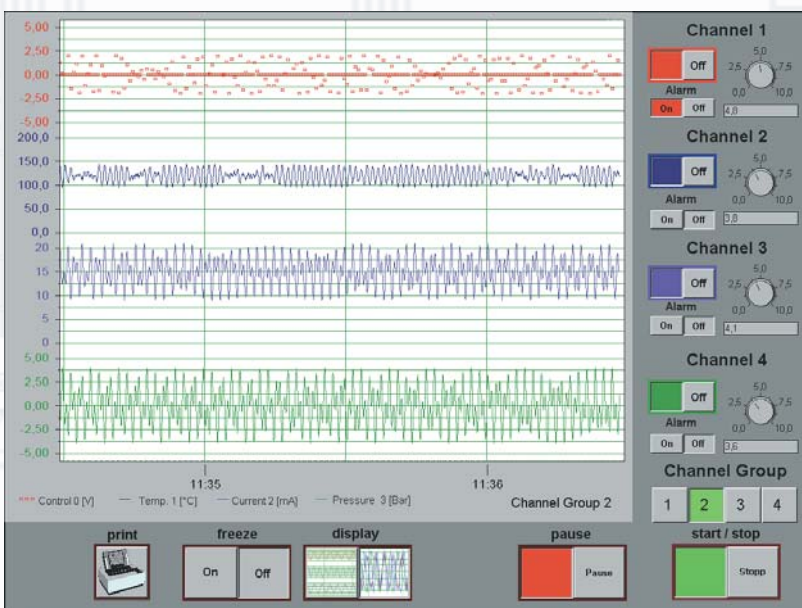
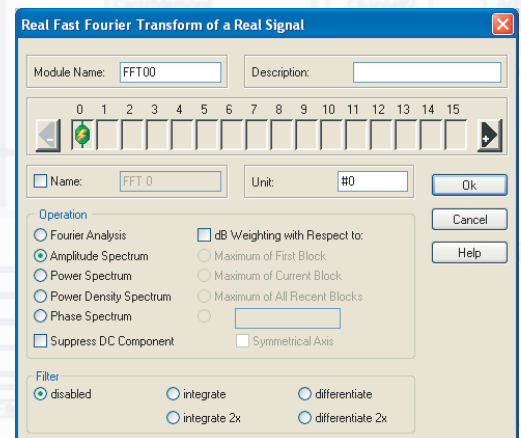


Worksheet

The worksheet is where the user creates 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

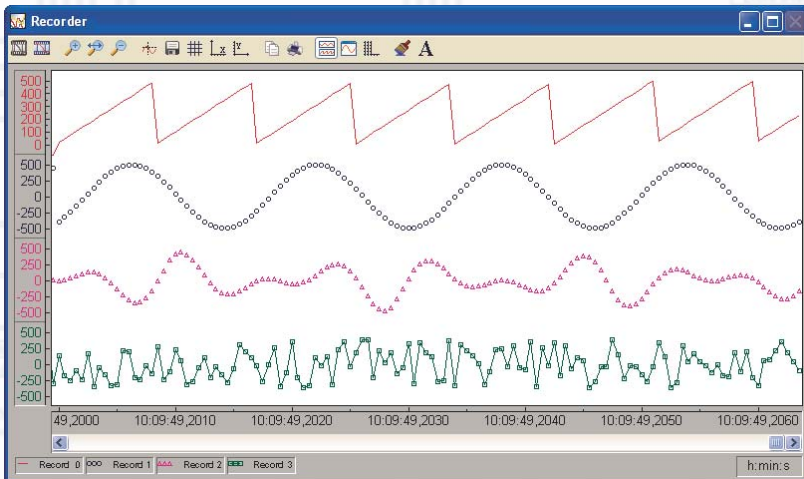
No programming required! Easily configure modules using the Module Properties dialog boxes. Easily specify the capability of each function block, the number of channels and the parameter settings.



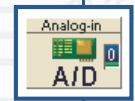
Layouts

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.

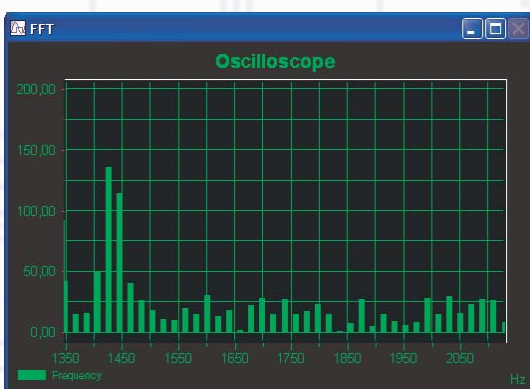
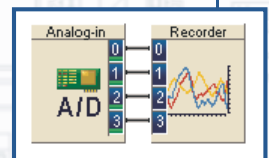
Five easy solutions <for convincing results>



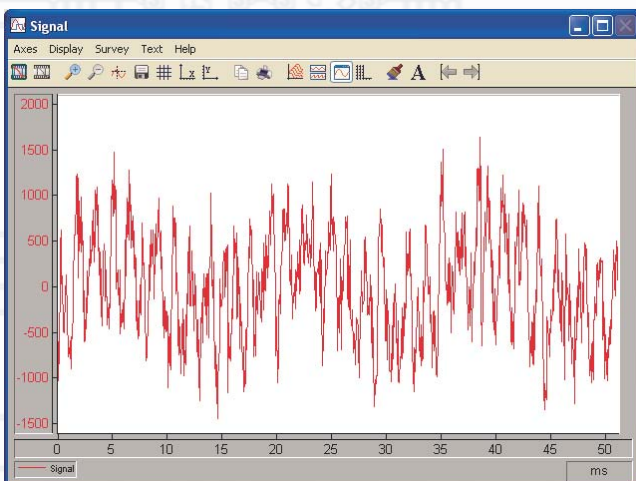
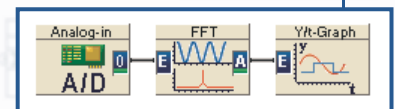
... one module for a data logger ...



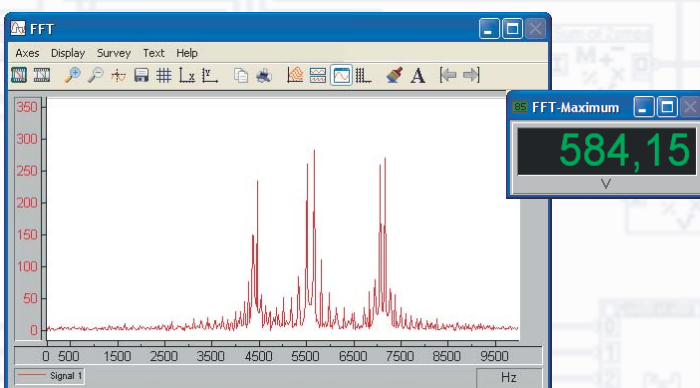
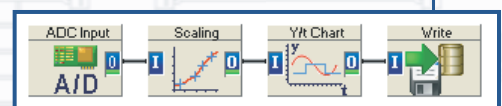
... two modules for a chart recorder ...



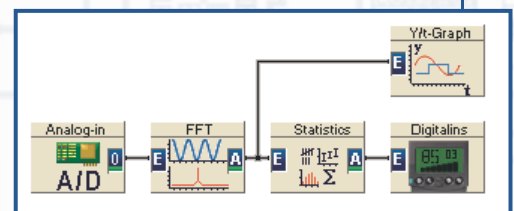
... three modules for a frequency analyser



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



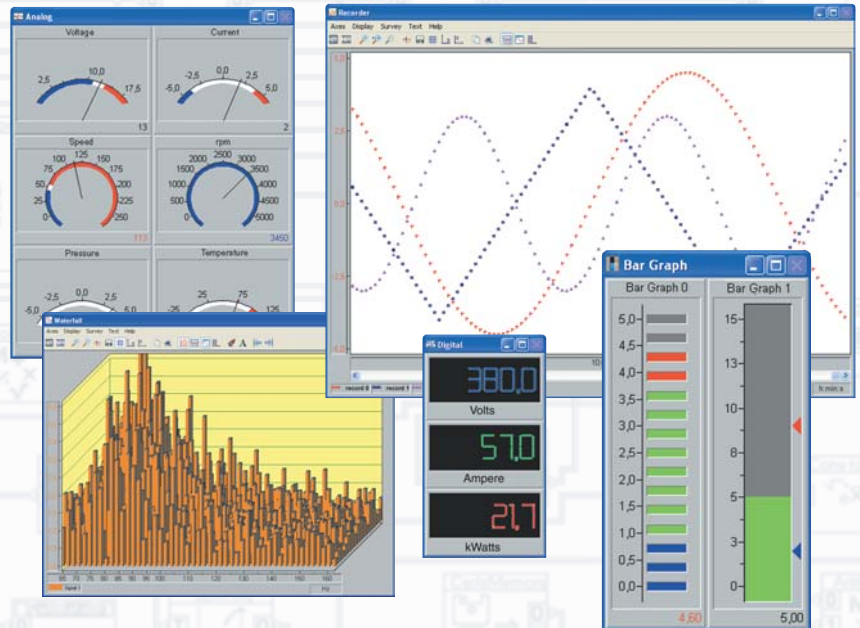
... five modules for acquisition, display, frequency analysis and statistics of your data



DASYLab Display Options

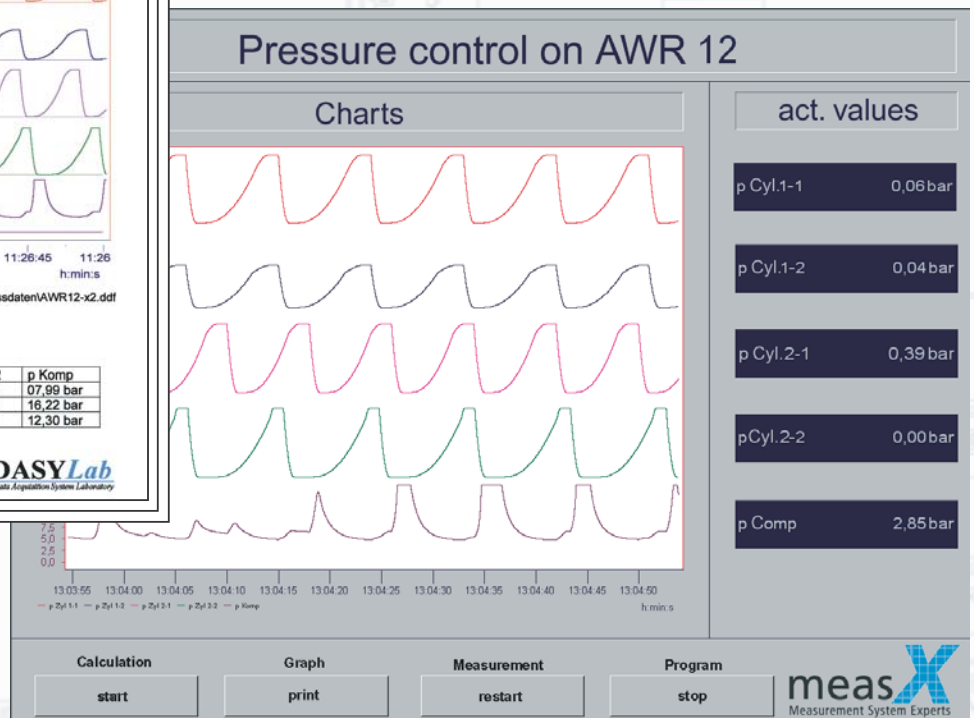
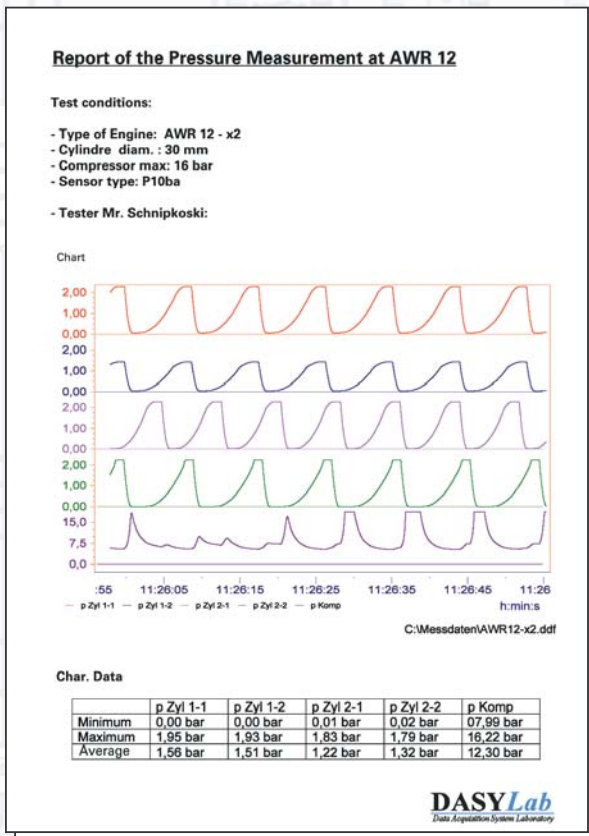
Displays

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



Layouts and Reports

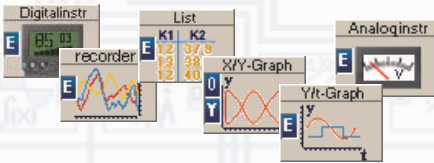
Use the DASYLab Layout Windows to create a clear and informative presentation of your data and results. Represent your data in scope displays, numerical listings, chart recorders or bar graphs, just by placing the corresponding objects in the layout and connecting them to the worksheet modules. Use text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



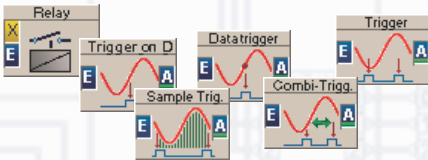
DASYLab Features

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 amplitude analysis as well as a setpoint generator module.

Displays



Trigger



Data Reduction



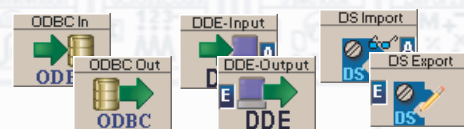
Event driven Actions



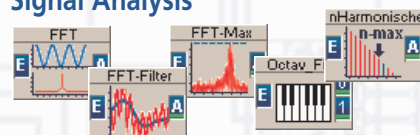
Signal Generation



Software Interfaces



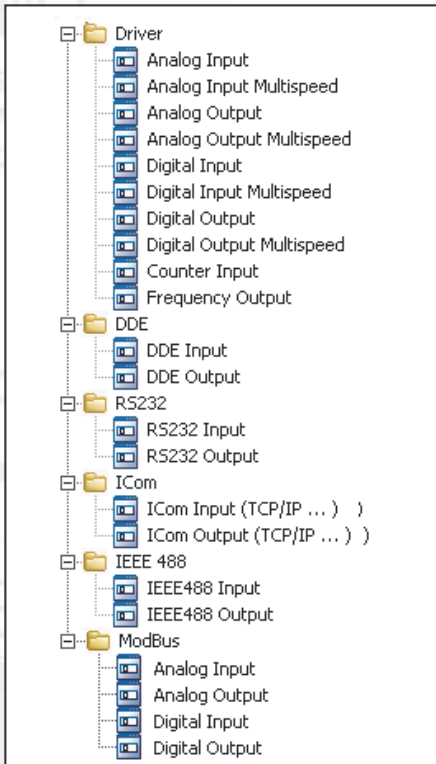
Signal Analysis



	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	●	●	●	●
Display				
Y/t Chart	●	●	●	●
X/Y Chart	○	●	●	●
Chart Recorder	○	●	●	●
Polar Plot	○	●	●	●
Analog Meter	●	●	●	●
Digital Meter	●	●	●	●
Bar Graph	●	●	●	●
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	○	○	★	●
Sound Level Meter (Schallpegel)	○	○	★	★
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	⚡			

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.



DAP Microstar



PCI



PXI/Compact-PCI



USB



PC-Card



CAN



Ethernet Interface



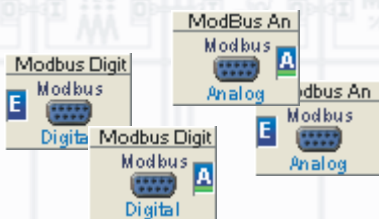
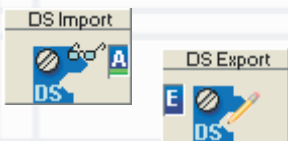
RS232-Interface



IEEE Interface



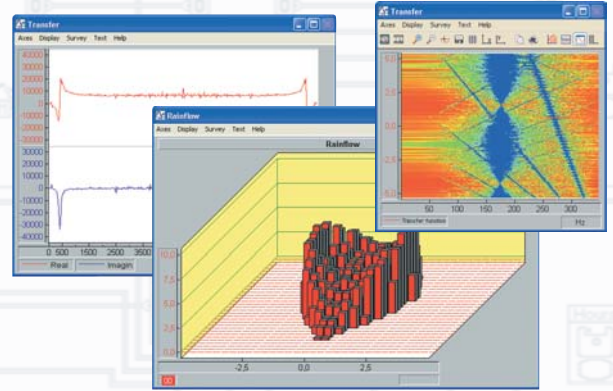
SPS Simatic S7 Interface



DASYLab Extensions

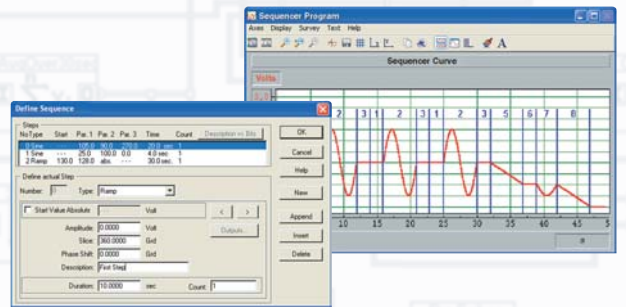
Analysis Toolkit

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



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.

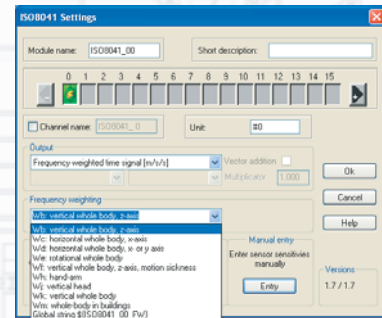


Net Option

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

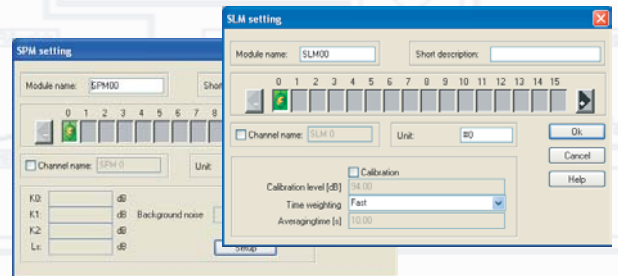
Vibration Impact on Human Body

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.

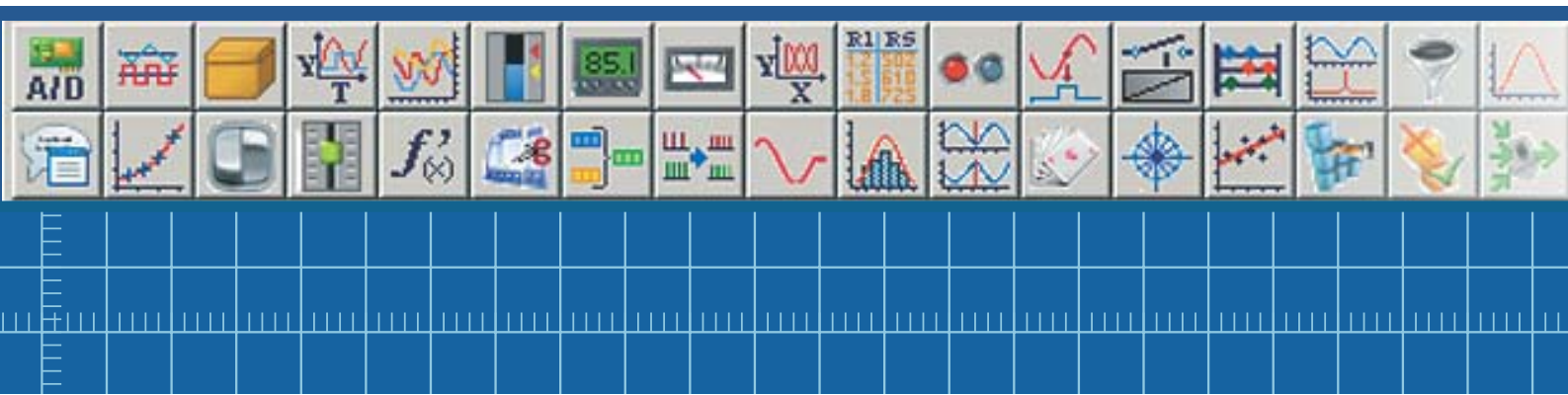
Extension Toolkit

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.

```
pbuf_put(outbuf)

/* Channel Types
/* Changes Forbidden
-----
#define KT_NORMAL 0 /* Standard data channel */
#define KT_BINARY 1 /* TTL-coded binary data */
#define KT_SPEC 10 /* Spectral data, full length */
#define KT_SPEC2 11 /* Spectral data, half length */
#define KT_SPEC3 12 /* Spectral data, half length + 1
#define KT_SPEC4 13 /* Spectral data, symmetric X-axi
#define KT_TER2 14 /* Spectral data, Third analysis
#define KT_OCT 15 /* Spectral data, Octave analysis
#define KT_CLASS 20 /* Histogram data without time in
#define KT_CLASS2 21 /* Histogram data with time infor
#define KT_DIG_WORD 30 /* Digital-WORD from 0.0 through

/* Channel Flags
/* Changes Forbidden
-----
#define KF_NORMAL 0x0000 /* Default */
#define KF_HOLES 0x0001 /* Gaps in the data can occur */
#define KF_SHORT_BLK 0x0002 /* Short blocks can occur */
```



Distributor