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DynoWare

Type 2825A...

Software for Data Acquisition and Evaluation

Kistler DynoWare is a universal and easy to use software, which is particularly suitable for force measurements with dynamometers or single and multi-component force sensors.

- Simple operation
- Configuration and control of Kistler measuring instruments via USB, RS-232C or IEEE-488
- Useful signal evaluation and calculation functions
- Simultaneous recording of up to 28 measuring channels
- The software is ideal for the acquisition and evaluation of physical measurands

Description

For signal analysis, DynoWare offers the technician online visualization of the measured curves together with useful calculation and graphics functions. Apart from simple configuration of the most important measuring instruments, this software supports individual documentation of the measurement, along with storage of configuration data and measured data. The signal evaluation also enables compensation of undesirable signal drift due, for example, to undue influence of temperature.
As a feature, the signal frequency and integral of the measured curve can be determined with the cursor function.

DynoWare supports several A/D cards (PCI/PCMCIA) as well as USB 2.0 of DAQ-System Type 5697A.

Application

DynoWare is the data acquisition software of choice for cutting force measurement. It supports both stationary and rotary measuring systems from Kistler.
However, DynoWare can also be used for any reaction force measurements or crash measurements with Kistler multicomponent dynamometers. At the same time, the measured data from signal amplifiers of other manufacturers can also be measured and evaluated.

Technical Data

Data Acquisition Cards Supported	
Type 2855A4, PCIM-DAS 1602/16	
PC bus: PCI	
Number of measuring channels: 8, analog, differential	
Resolution: 16 Bit	
Measuring range: ±1,25 V; ±2,5 V; ±5 V; ±10 V	
Sampling rate:	1 measuring channel active: 100 kS/s
	8 measuring channels active: 12,5 kS/s

Type 2855A5, PC-CARD-DAS 16/16	
PC bus: PCMCIA, PC-CARD	
Number of measuring channels: 8, analog, differential	
Resolution: 16 Bit	
Measuring range: ±1,25 V; ±2,5 V; ±5 V; ±10 V	
Sampling rate:	1 measuring channel active: 100 kS/s
	8 measuring channels active: 12,5 kS/s

Type 5697A: USB DAQ-System	
Connection: UBS 2.0	
Number of measuring channels: 28[1)], analog, single-ended	
Resolution: 16 Bit	
Measuring range: ±0,1 V, ±0,2 V, ±0,5 V, ±1 V, ±2 V, ±5 V, ±10 V	
Sampling rate:	1 Channel active: 1 MS/s
	8 Channels active: 125 kS/s
	16 Channels active: 62,5 kS/s

[1)] DynoWare Type 2825A as well as Update Type 2825E allow to control one charge amplifier only. DAQ-System Type 5697 is capable to acquire 28 channels maximum.

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Measuring Instrument Control and Configuration via Communication Interfaces

RS-232C
- 5011Bx2, 5015A..., 5017..., 5018A..., 5019..., 5070A..., 5080A..., 5223..., 5237...

IEEE-488
- 5011Bx1, 5015Ax1xx, 5070Axxxx1

USB 2.0
- 5018A..., 5080A...

Triggering

Analog, digital and by Keyboard

Digital Signal Evaluation

Within a measuring window
- Averaging
- Minimum and maximum values
- Integral
- Determining the signal frequency

Signal smoothing
- Moving mean value
- Moving median value
- High and low pass filters

Compensation of signal drift

Graphics Functions

Measured data represented on one or more graphs

Display as y(t) and y(x) graphs

Display of numeric values

Cursor function

Zoom function

Calculation Functions

Multi-component force-moment calculation

Calculation of radial and tangential forces with rotating cutting force dynamometer Type 9123…/24…

Mathematical functions

Tools

Voltmeter function

Oscilloscope function

Documentation of the Measurement

Each measurement can be individually documented.

Storage of measurement and configuration data with or without remarks

Import and export of measured data and ASCII format (.txt) for Excel, DIAdem, LabVIEW, Matlab, etc.

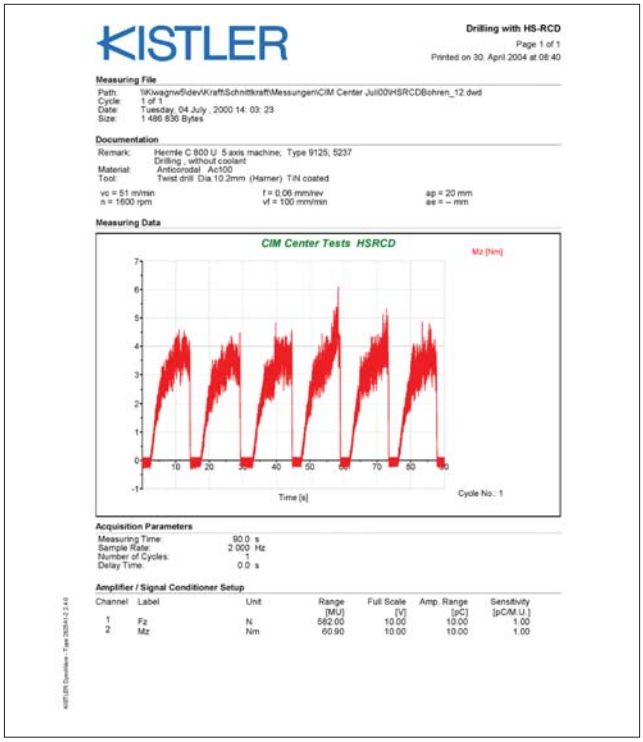
Printer

Printing of test records and configuration data is supported by Windows

Help Functions

With tutorial program

Example of a Test Record



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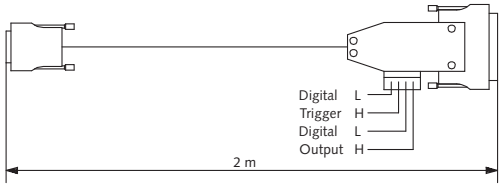
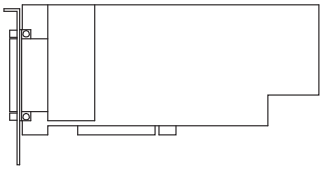
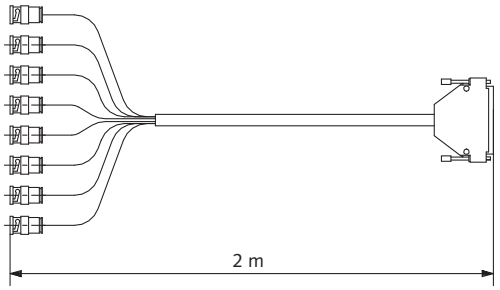
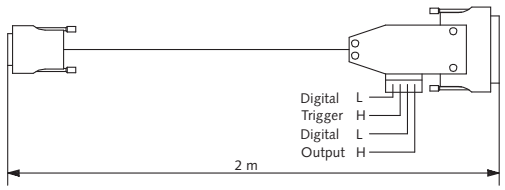
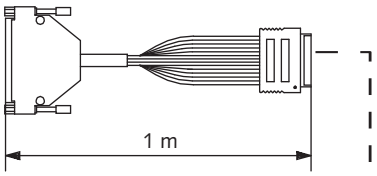
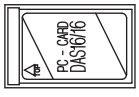
Cable Concept for DynoWare Type 2825A... with A/D Cards Type 2855A4 and Type 2855A5

Signal Conditioner	Measuring Signal Connecting Cable	A/D Acquisition Card
Type 5017... 5019... 5070... 5080...[1] 5223... 5237...	Type 1500B15 D-Sub pos. 15 pole — D-Sub neg. 37 pole 	Type 2855A4 PCIM-DAS1602/16 (PCI-Bus) D-Sub pos. 37 pole 
Type 5011... 5015... 5017... 5018... 5019... 5223... 5237... other products	Type 1500A67 8x BNC pos. — D-Sub neg. 37 pole 	
Only for signals from the 6-component summing calculator Type 5017Bxxx1 5070Ax2xxx 5080Axx8xxxx[2]	Type 1500A7 D-Sub pos. 15 pole — D-Sub neg. 37 pole 	Type 1500B69 D-Sub pos. 37 pole — MERITEC 50 pole  Type 2855A5 PC-CARD-DAS16/16 (PC-CARD-Bus) 50 pole 

[1] Cable Type 1500B15 is used when output signals F_{x1+2}, F_{x3+4}, F_{y1+4}, F_{y2+3}, F_{z1}, F_{z2}, F_{z3}, F_{z4} have to be acquired.
[2] Cable Type 1500A7 is used when summed signals F_x, F_y, F_z, M_x, M_y, M_z have to be acquired.

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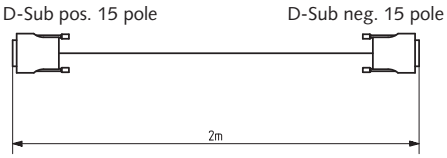
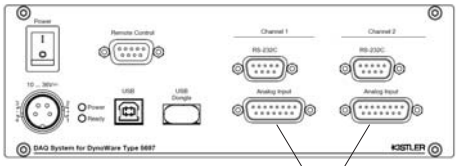
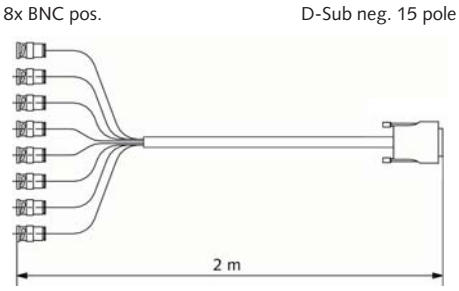
Cable Concept for DynoWare Type 2825A... with DAQ-System Typ 5697A

<table>
<tr><th>Signal Conditioner</th><th>Measuring Signal Connecting Cable</th><th>A/D Acquisition Card</th></tr>
<tr><td>Type
5017...
5019...
5070...
5080...[3)]
5223...
5237...</td><td>Type 1700A111A2
 
</td><td rowspan="2">Type 5697A
 
</td></tr>
<tr><td>Type
5011...
5015...
5017...
5018...
5019...
5223...
5237...
other products</td><td>Type 1700A113A2
 
</td></tr>
</table>

[3)] Cable Type 1700A111A2 can be used in addition with DAQ-System Type 5697A, regardless of summed or output signals being acquired.

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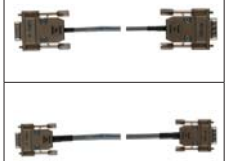
Interface Cables

Signal Conditioner	RS-232C Interface Cable (Null Modem)
Type 5011Bx2 5017… 5019… 5223…	Type 1475A3 D-Sub pos. 25 pole — D-Sub neg. 9 pole 3 m
Type 5015… 5018... 5070… 5080... 5237…	Type 1200A27 D-Sub pos. 9 pole — D-Sub neg. 9 pole 5 m

Typical Measuring Chain with DAQ-System Type 5697A1

					
Dynamometer	Connecting cable, high resistant	Charge Amplifier	Connecting cable	DAQ-System	Notebook (customer) with DynoWare
Type 9129AA	Type 1677A5	Type 5070A	Type 1700A111A2 Type 1200A27	Type 5697A1	

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Requirements for the PC

- Operating System: Windows® NT4.0 (SP4), 2000, XP, Vista, Windows® 7 (32-bit versions)
- Pentium PC 500 MHz or higher
- Hard disc: 100 MB free space for data storage and software installation
- Memory: at least 512 MB RAM
- Super VGA monitor, screen resolution set to at least 800x600
- Vacant port (PCI or PC-CARD) for data acquisition board Type 2855A4/2855A5
- USB 2.0 port for DAQ-System Type 5697A
- USB port for USB/RS-232C converter (Type 2867)
- Parallel interface Centronics (LPT1) or USB for license key
- CD-ROM drive
- A color printer is recommended for creating hard copies of graphs
- Acrobat® Reader® for reading the PDF Instruction Manual

Optional Accessories	**Type**
• Data acquisition card	2855A4, PCIM-DAS 1602/16
• Data acquisition card	2855A5, PC-CARD-DAS 16/16
• DAQ system, USB	5697A...
• Connecting cable	1500B15
• Connecting cable	1500A67
• Connecting cable	1700A111A2
• Connecting cable	1500B69
• Connecting cable	1700A113A2
• Interface cable	1200A27
• Interface cable	1475A3
• USB/RS-232C converter	2867

Ordering Key **Type**
Scope of Delivery Including Accessories

DynoWare Complete Version **2825A-02-1**
- Runtime license key for parallel interface
- DynoWare software on CD-ROM
- Instruction manual

DynoWare Complete Version **2825A-02-2**
- Runtime license key for USB interface (HASP)
- DynoWare software on CD-ROM
- Instruction manual

DynoWare Update Version **2825E-02-0**
- DynoWare software on CD-ROM
- Instruction manual

DynoWare Demo Version **2825D-02-0**
- DynoWare software on CD-ROM

DAQ-System for DynoWare **5697A1**
Complete version
- HASP license key
- DynoWare software on CD-ROM, Type 2825A
- USB 2.0 DAQ-box
- USB cable, length 1,8 m
- Universal AC/DC adapter 100 ... 240 V
- Instruction manual

DAQ-System for DynoWare **5697A2**
Update version
- DynoWare software on CD-ROM, Type 2825E
- USB 2.0 DAQ-box
- USB cable, length 1,8 m
- Universal AC/DC adapter 100 ... 240 V
- Instruction manual

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