

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, Ethernet or IEEE-488
- Useful signal evaluation and calculation functions
- Simultaneous recording of up to 28 measuring channels depending on DAQ system
- Realtime visualization of measured curves
- The software is ideal for the acquisition and evaluation of physical measurands

Description

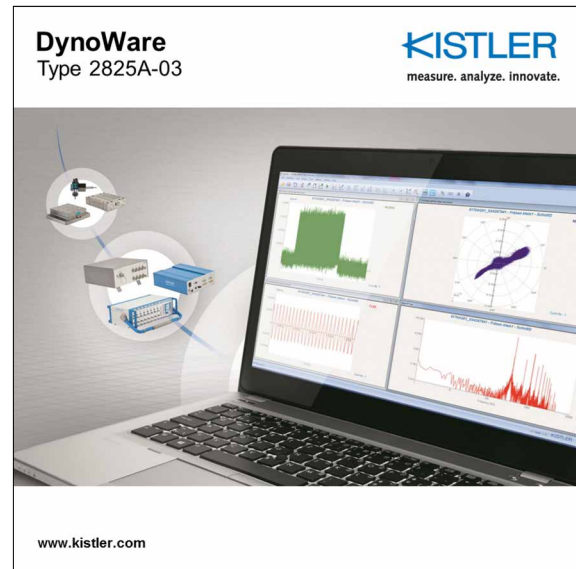
For signal analysis, DynoWare offers the technician realtime visualization of the measured curves together with useful calculation and graphics functions. Apart from simple configuration of the most important measuring instruments, this software supports individual documentation of the measurement, along 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.

DynoWare supports Kistler's DAQ System Type 5697A as well as the LabAmp System Type 5167A.

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 5697A: USB DAQ System

Connection: USB 2.0

Number of measuring channels: 28 ¹⁾, analog, single-ended

Resolution: 16 Bit

Measuring ranges: $\pm 0,1$ V, $\pm 0,2$ V, $\pm 0,5$ 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

Type 5167A: LabAmp Measurement System

Connection: Ethernet

Number of measuring channels: up to 16 channels from different devices ²⁾

Resolution: 24 Bit

Measuring ranges: 100 ... 1 000 000 pC

Sampling rate: 100kS/s simultaneous data acquisition per channel

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.

²⁾ DynoWare Type 2825A as well as Update Type 2825E allow to control multiple charge amplifier of LabAmp Family 5167A or for dynamic signals and voltage Type 5165A. Dynoware is able to acquire in overall 16 channels from different LabAmps in parallel.

Measuring instrument control and configuration via communication interfaces

- RS-232C
 - 5011Bx2, 5015A..., 5017..., 5018A..., 5019..., 5070A..., 5080A..., 5223..., 5237..., 5238...
- IEEE-488
 - 5011Bx1, 5015Ax1xx, 5070Axxxx1
- USB 2.0
 - 5018A..., 5080A...
- Ethernet
 - 5167A..., (5165A...)

Triggering

Analog, digital and by Keyboard

Signal analysis

Within a measuring window

- Averaging
- Minimum and maximum
- Values Integral
- RMS
- FFT

Smoothing/filtering

- Moving mean value
- Moving median value

Filters: High pass, low pass, band pass and band stop

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
- Polar plot
- Display of FFT analysis

Calculation functions

- Multi-component force-moment calculation
- Calculation of radial and tangential forces with rotating cutting force dynamometer Type 9123.../24..., 9170.../71...
- Mathematical functions

Tools

- Voltmeter function
- Oscilloscope function

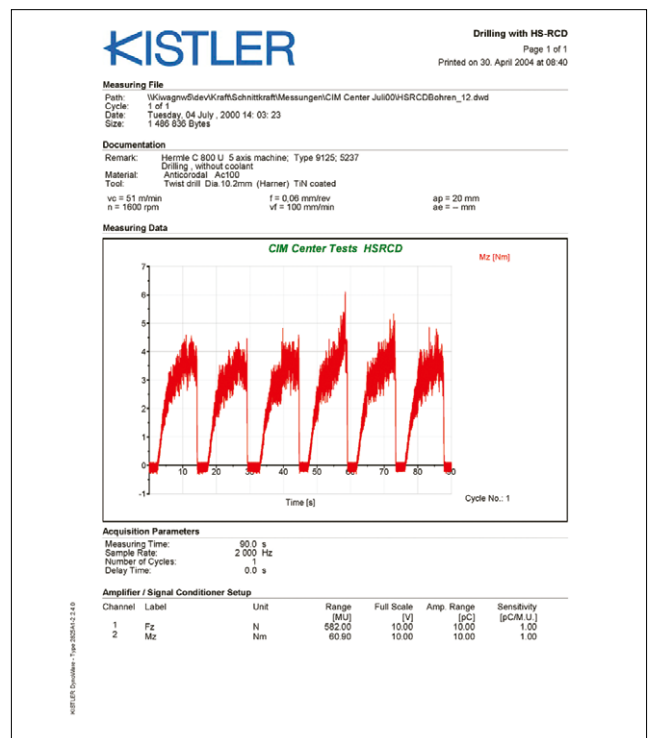
Documentation of the measurement

- Each measurement can be individually documented.
- Storage of measurement and configuration data with or without remarks
- Export of measured data and ASCII format (.txt) or (.csv) for Excel, DIAdem, LabVIEW, Matlab, etc.

Printer

Printing of test records and configuration data is supported by Windows

Example of a test record



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Typical measurement signals with DynoWare Type 2825A...

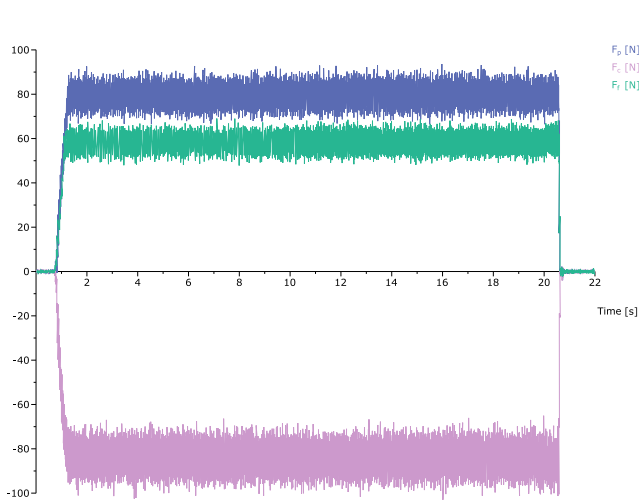


Fig. 1: Measurement data during rotation

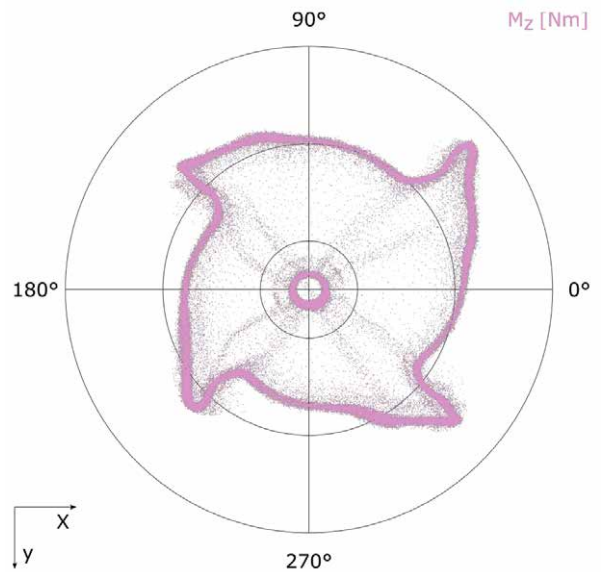


Fig. 2: Polarplot milling with four-edged tool for half cut

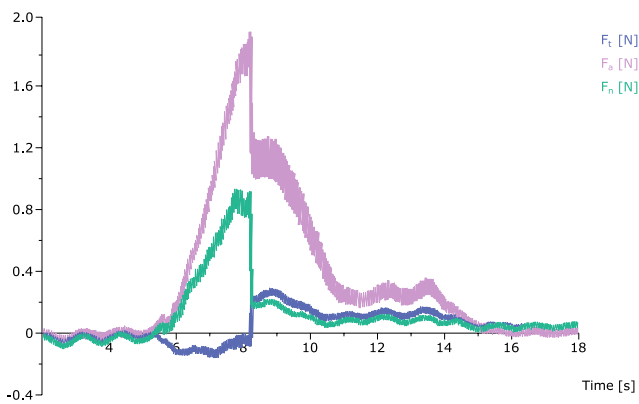


Fig. 3: Measurement data during grinding

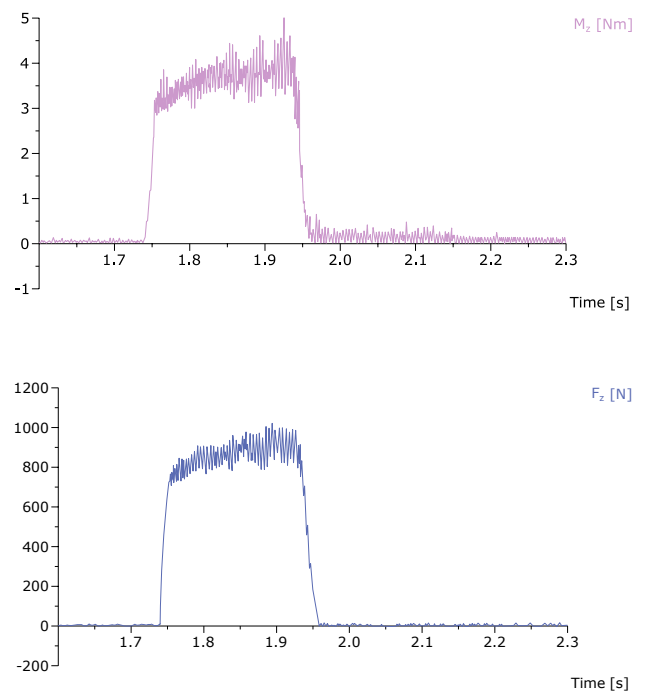
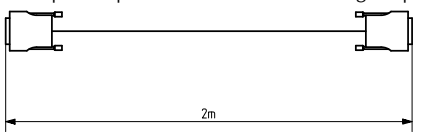
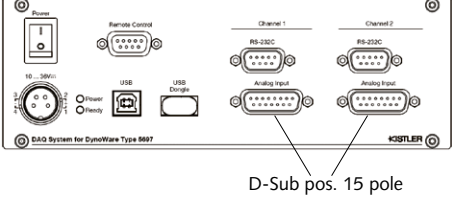
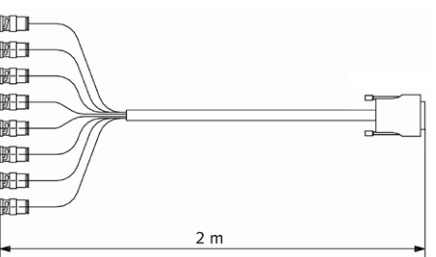


Fig. 4: Measurement data during drilling

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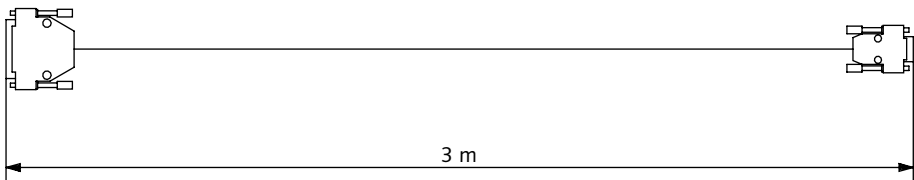
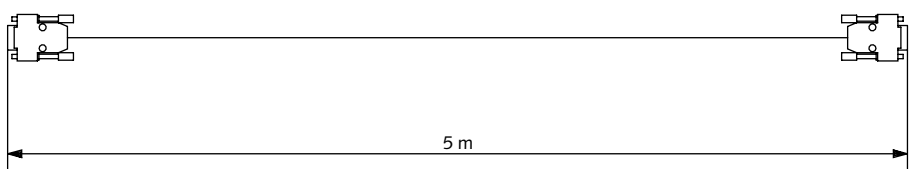
Cable concept for DynoWare Type 2825A... with DAQ System Type 5697A

Signal conditioner	Measuring signal connecting cable	A/D Acquisition card
Type 5017... 5019... 5070... 5080... ³⁾ 5223... 5237... 5238...	<p style="text-align: center;">Type 1700A111A2</p> <p style="text-align: center;">D-Sub pos. 15 pole D-Sub neg. 15 pole</p>  <p style="text-align: center;">2m</p>	<p style="text-align: center;">Type 5697A</p>  <p style="text-align: center;">D-Sub pos. 15 pole</p>
Type 5011... 5015... 5017... 5018... 5019... 5080... 5223... 5237... 5238... other products	<p style="text-align: center;">Type 1700A113A2</p> <p style="text-align: center;">8x BNC pos. D-Sub neg. 15 pole</p>  <p style="text-align: center;">2 m</p>	




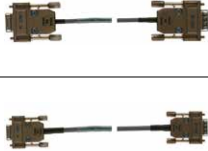

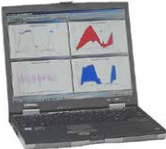
³⁾ Cable Type 1700A111A2 can be used in addition with DAQ system Type 5697A, regardless of summed or output signals being acquired.

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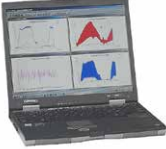
Interface cables

Signal conditioner	RS-232C Interface cable (Null modem)
Type 5011Bx2 5017... 5019... 5223...	<p style="text-align: center;">Type 1475A3</p> <p>D-Sub pos. 25 pole D-Sub neg. 9 pole</p>  <p style="text-align: center;">3 m</p>
Type 5015... 5018... 5070... 5080... 5237... 5238...	<p style="text-align: center;">Type 1200A27</p> <p>D-Sub pos. 9 pole D-Sub neg. 9 pole</p>  <p style="text-align: center;">5 m</p>

Typical measuring chain with DAQ System Type 5697A1

					
Dynamometer	Connection cable, high-impedance	Charge amplifier	Connecting cable	DAQ system	Notebook (customer) with DynoWare
Type 9129AA	Type 1677A5	Type 5070A	Type 1700A111A2 Type 1200A27	Type 5697A1	

Typical measuring chain with system Type 5167A...

					
Dynamometer	Connection cable, high-impedance	Charge amplifier with integrated DAQ			Notebook (customer) with DynoWare
Type 9129AA	Type 1677A5	Type 5167A...			

System requirements

- Microsoft Windows 7 / 8 / 10
- Acrobat Reader for reading the PDF Instruction Manual
- Pentium-class PC or 100% compatible computer (1 GHz or higher recommended)
- 512 MB of RAM (1GB recommended)
- Super VGA monitor with the following settings: Screen resolution set to at least 800x600, small fonts selected
- Disk (free) space required: 1 GB in the target directory for data storage and software installation
- Microsoft compatible mouse
- 1 USB port
- For Type 5167A: 1 Ethernet port 100Mbit
- A color printer is recommended for creating hard copies of graphs

Optional accessories	Type
• DAQ system, USB	5697A...
• Charge Amplifier System	5167A...
• Charge Amplifier System	5165A...
• Connecting cable	1500B15
• Connecting cable	1500A67
• Connecting cable	1700A111A2
• Connecting cable	1700A113A2
• Interface cable	1200A27
• Interface cable	1475A3
• USB/RS-232C converter	2867

Ordering key

Scope of Delivery Including Accessories

Type

DynoWare complete version **2825A-03-2**

- Runtime license key for USB interface (HASP)
- DynoWare software (Download at Kistler website)

DynoWare demo version

- Demo version can be downloaded free of charge from the Kistler website

DAQ-System for DynoWare **5697A1**

Complete version

- HASP license key
- DynoWare software (Download at Kistler website)
- USB 2.0 DAQ-box
- USB cable, length 1,8 m
- Universal AC/DC adapter 100 ... 240 V

DAQ-System for DynoWare **5697A2**

Update version

- DynoWare software (Download at Kistler website)
- USB 2.0 DAQ-box
- USB cable, length 1,8 m
- Universal AC/DC adapter 100 ... 240 V

LabAmp 5167A with DynoWare **5167Ax1DK**

Complete system

- LabAmp Type 5167Ax1,
- 4 or 8 channel version
- DynoWare software (Download at Kistler website)
- Ethernet cable, l = 2m
- Power supply 24V
- Quick start guide

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