Portable Precision USB Sensor Interface

for load cells, torque sensors and pressure sensors

Code:	72-9206-REF EN
Delivery:	ex stock
Warranty:	24 months

Series 9206

72-9206-REF EN

- **“Plug & Measure” interface for strain gauge sensors, potentiometric sensors and standard signals**
- **6-wire connection technology**
- **Practical and convenient DigiCal calibration and data acquisition software**
- **24-bit resolution**
- **Free LabView driver DLL for integrating in your own software environment**
- **Multipurpose reference measurement chain with optional factory calibration certificate or German-accredited DAkkS calibration certificate**
- **Pt100 as option**

Application

The 9206 USB sensor interface series is ideally suited to Notebook-based mobile use for high-precision, traceable calibration jobs that must be performed on-site for equipment such as presses, torque measurement facilities and pressure control systems.
A factory calibration certificate or German-accredited DAkkS calibration certificate can optionally be provided for the USB interface plus relevant sensors, ensuring compliance even with the stringent traceability requirements of quality assurance standards. This provides a quick, cost-effective way of assessing your system with traceable documentation of measurement results.
The device is intended for industrial use in sectors such as quality assurance, on-site service and equipment monitoring.

Further areas and examples of use:

- ► Test-equipment calibration
- ► On-site calibration of high-precision measurement instruments
- ► Hydraulic-press testing
- ► Reference measurements on/in assembly lines
- ► Testing of robot contact forces
- ► Pneumatic pressure testing

Description

The USB sensor interface is powered from the connected PC via the USB port, and uses this power supply to generate the sensor excitation voltage. The initial settings and sensor settings are made by burster in-house and saved in the USB sensor interface. These can then be fine-tuned by the customer.
The DigiCal calibration software can display the measurement data in various forms and save it in a custom report file or Excel file. The software includes calibration-routine management for quick comparisons of existing measurement data plus rapid and reliable access to recurring calibration processes. In addition, a range of START/STOPP-triggers can be enabled.
burster can configure the interface to suit a specific sensor, although you can customize your own parameters using the basic software version supplied free of charge. The driver package, available free of charge, lets you integrate the device in LabVIEW or your own software.

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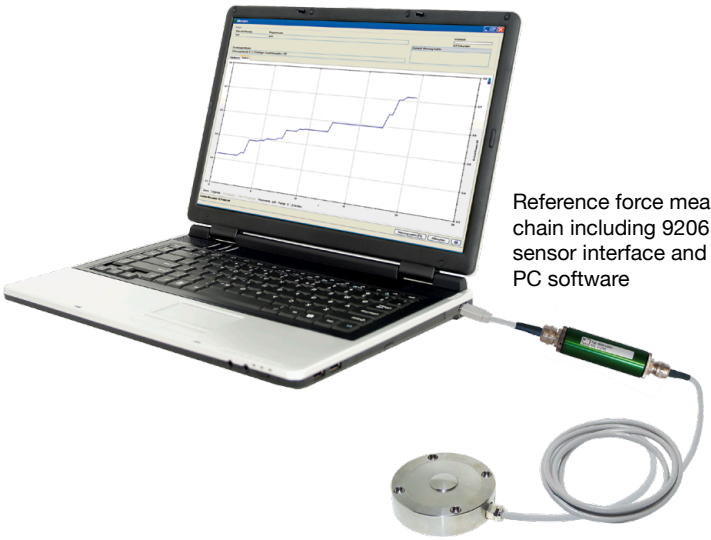
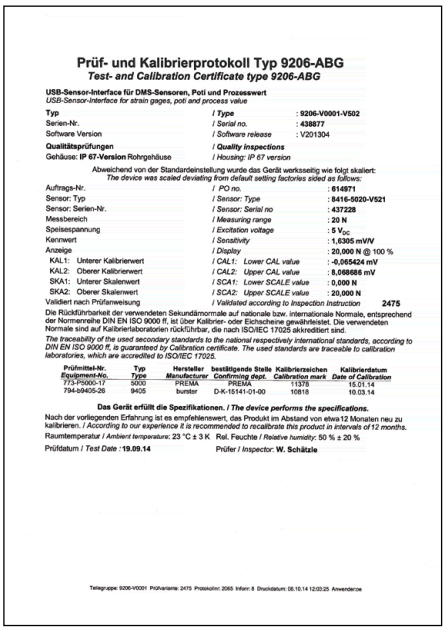
Application

Precision force check of electrical, mechanical or hydraulic presses



Reference force measurement chain including 9206 USB sensor interface and DigiCal PC software



Prüf- und Kalibrierprotokoll Typ 9206-ABG
Test- and Calibration Certificate type 9206-ABG

USB-Sensor-Interface für DMS-Sensoren, Poti und Prozesswert
USB-Sensor-Interface for strain gages, poti and process value

Typ	/ *Type*	: 9206-V0001-V502
Serien-Nr.	/ *Serial no.*	: 438877
Software Version	/ *Software release*	: V201304
Qualitätsprüfungen	/ *Quality inspections*	
Gehäuse: **IP 67-Version** Rohrgehäuse	/ *Housing: IP 67 version*	

Abweichend von der Standardeinstellung wurde das Gerät werkseitig wie folgt skaliert:
The device was scaled deviating from default setting factories sided as follows:

Auftrags-Nr.	/ *PO no.*	: 614971
Sensor: Typ	/ *Sensor: Type*	: 8416-5020-V521
Sensor: Serien-Nr.	/ *Sensor: Serial no*	: 437228
Messbereich	/ *Measuring range*	: 20 N
Speisespannung	/ *Excitation voltage*	: 5 V_{DC}
Kennwert	/ *Sensitivity*	: 1,6305 mV/V
Anzeige	/ *Display*	: 20,000 N @ 100 %
KAL1: Unterer Kalibrierwert	/ *CAL1: Lower CAL value*	: -0,065424 mV
KAL2: Oberer Kalibrierwert	/ *CAL2: Upper CAL value*	: 8,068686 mV
SKA1: Unterer Skalenwert	/ *SCA1: Lower SCALE value*	: 0,000 N
SKA2: Oberer Skalenwert	/ *SCA2: Upper SCALE value*	: 20,000 N
Validiert nach Prüfanweisung	/ *Validated according to Inspection Instruction*	2475

Die Rückführbarkeit der verwendeten Sekundärnormale auf nationale bzw. internationale Normale, entsprechend der Normenreihe DIN EN ISO 9000 ff. ist über Kalibrier- oder Eichscheine gewährleistet. Die verwendeten Normale sind auf Kalibrierlaboratorien rückführbar, die nach ISO/IEC 17025 akkreditiert sind.
The traceability of the used secondary standards to the national respectively international standards, according to DIN EN ISO 9000 ff. is guaranteed by Calibration certificate. The used standards are traceable to calibration laboratories, which are accredited to ISO/IEC 17025.

Prüfmittel-Nr. *Equipment-No.*	Typ *Type*	Hersteller *Manufacturer*	bestätigende Stelle *Confirming dept.*	Kalibrierzeichen *Calibration mark*	Kalibrierdatum *Date of Calibration*
773-P5000-17	5000	PREMA	PREMA	11378	15.01.14
794-99405-26	9405	burster	D-K-15141-01-00	10818	10.03.14

Das Gerät erfüllt die Spezifikationen. */ The device performs the specifications.*
Nach der vorliegenden Erfahrung ist es empfehlenswert, das Produkt im Abstand von etwa 12 Monaten neu zu kalibrieren. */ According to our experience it is recommended to recalibrate this product in intervals of 12 months.*
Raumtemperatur / *Ambient temperature:* 23 °C ± 3 K Rel. Feuchte / *Relative humidity:* 50 % ± 20 %
Prüfdatum / *Test Date* : **19.09.14** Prüfer / *Inspector:* **W. Schätzle**

- Maximum precision and traceability even under on-site conditions
- System has high IP 67 degree of protection
- DigiCal software provides OK/NOK evaluation of measurement values, retrieval of measurement data, export of evaluation results plus report generation
- Reference load cell in line with the force path ensures optimum comparative measurements in difficult-to-access locations

Application

Torque wrench calibration using torque sensor and 9206 USB sensor interface

Torque sensors can be connected directly to a PC using the 9206 USB sensor interface. This measurement chain allows quick and easy measurement of torques typical in any tools used for screw-connection tasks. On-site calibration can include, for instance, checking that the torque wrench meets the set scale value or releases accurately at the correct torque. An optional factory calibration certificate or German-accredited DAkkS calibration certificate can be supplied to ensure traceability of the torque measurement chain.

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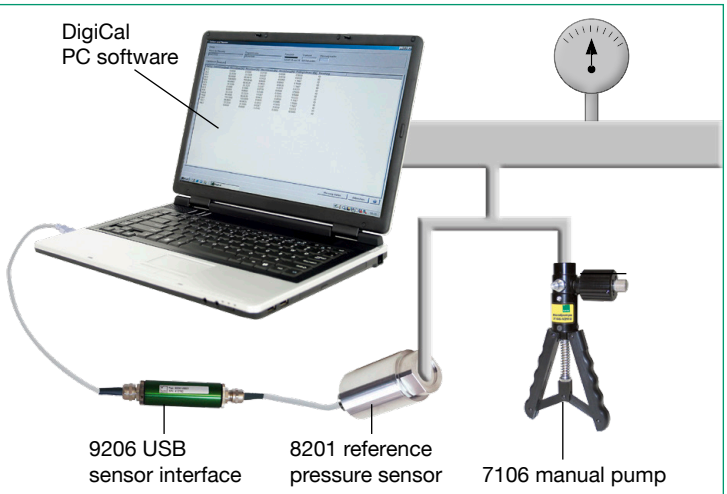
Pressure-line testing

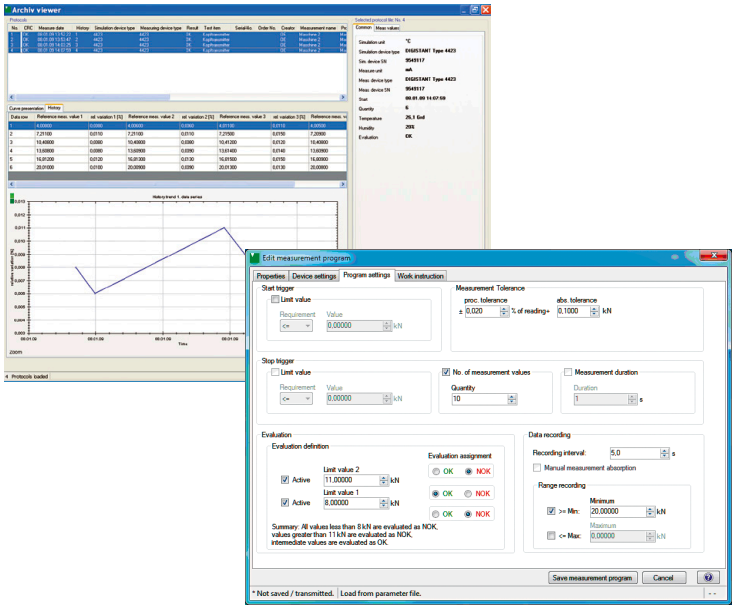
A pressure measurement chain comprising pressure sensor and USB sensor interface can be connected directly to the PC.
The DigiCal software can then be used to read the sensor data, which is then available for printing as a report or exporting into Excel.
On-site calibration uses a reference pressure sensor, a USB sensor interface and a manual pump to check the indicator on a pressure line. An optional factory calibration certificate or German-accredited DAkkS calibration certificate can be supplied to ensure traceability of the pressure measurement chain.



Range of functions offered by the DigiCal calibration and data acquisition software

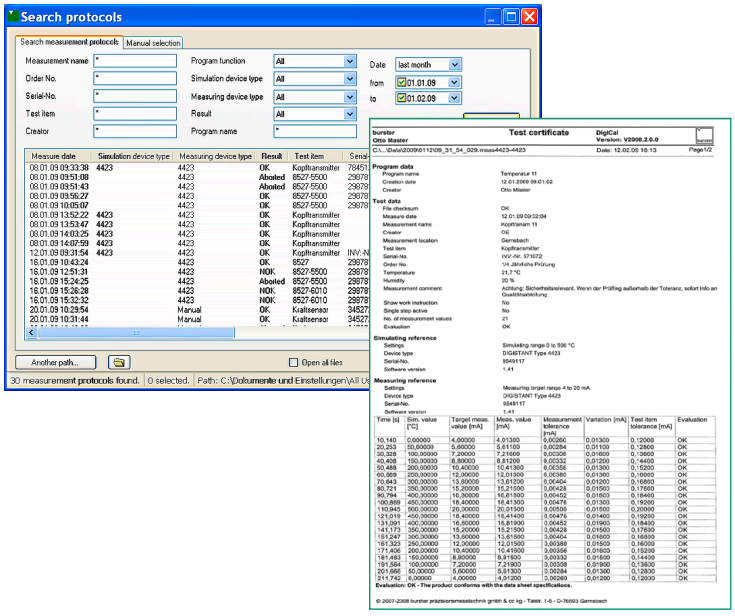
Easy, reliable creation of measurement programs and calibration routines

- DigiCal is a user-friendly tool for creating calibration routines and test reports
- Evaluation/checking functions check compliance of object under test with its technical specification
- A measurement program once created can be reused to save time
- Easy-to-select pop-ups provide fast access to relevant input parameters
- With up to four measurement values in view and under evaluation, DigiCal provides a quick overview of the tolerance-compliance of the object under test



Traceable measurement documentation

- In times when quality management is constantly growing in importance, it is vital to provide quality-relevant material in test reports. DigiCal meets this requirement
- With a straightforward report retrieval facility, a preview option plus print and save-as-PDF functions, the documentation tool represents excellent value for money



72-9206-REF EN

Technical Data

Connectable sensors

Strain gauge

Bridge resistance:	350 Ω ... 5 kΩ
Connection system:	6 wire
Sensitivity:	0 ... 50 mV/V
Sensor excitation::	2.5 V / 5 V
Excitation current:	max. 45 mA
Measurement error:	± 0.05 % F.S.

Transmitter and DC/DC sensors

Sensor excitation:	12 V
Excitation current:	80 mA
Measurement signal:	± 10 V
Measurement error:	± 0.05% F.S.

General amplifier data

Resolution:	24 Bit
Measuring rate ecxept Pt100:	up to 1200 readings per second only with software 9206-P100-REF up to 200 readings per second and 1 measuring channel with 9206-P001-REF
Input resistance:	> 1 GΩ
Temperature coefficient:	20 ppm/K
Range of operation temperature:	-20 ... + 60 °C
Storage temperature:	- 40 ... + 70 °C
Zero drift:	< 0,1 µV/K

In-Line housing

Material:	Aluminium
Dimensions (L x B):	115 x 25 mm
Weight:	200 g
Protection class:	IP67 tube housing IP40 tube housing with 12 pin connector
Mounting method:	screw clamp
Power supply:	via USB-plug 4 V ... 6 V
Cable length from sensor to 9206:	max. 3 m
Cable length from PC to 9206:	2.8 m
Sensor connection:	terminal block PG 7 connection
USB connection on 9206:	PG 7 connection

Ordering example

USB sensor interface with 8527 pressure sensor including factory calibration certificate and software

USB sensor interface for strain gauge sensors	**Model 9206-V2001**
High-precision load cell, 5 kN measurement range	**Model 8527-6005**
12-pin connecting plug	**Model 9941**
Connector fitting	**Model 99004**
Calibration of a measurement chain comprising one sensor and one USB sensor interface	**Model 92-ABG**
Factory calibration certificate for a complete measurement chain	**Model 85WKS-85DXM**
Configuration and analysis software for 9206	**Model 9206-P100-REF**

DigiCal software

Operating system requirements:

Windows XP, Vista, Win7, Win8

Order code

USB sensor interface 9206-V **X** **0** **0** **X**-REF

IP40 tube housing with 12 pin connector	2
Strain gauge, potentiometer, DC/DC	1
Pt100	2

(including measurement and analysis software **9206-P001-REF**)

Accessories

DigiCal calibration and data logging software (included with device, up to 200 measurements/s in data-logger mode)	**Model 9206-P001-REF**
DigiCal calibration and data logging software (up to 1200 measurements/in data-logger mode, reporting and history management)	**Model 9206-P100-REF**
Connecting lead, 12-pin female connector, one end open, for 9206-V000x	**Model 99540-000A-0150002**
Mating connector 12 pins	**Model 9941**
Aluminum case for USB sensor interface and accessories	**Model 7200-Koffer**

German-accredited DAkkS calibration

DAkkS calibration certificate for max. force of 200 kN, max. pressure of 5000 bar and max. torque of 5 kNm

Factory calibration

Factory calibration for max. force of 200 kN, max. pressure of 5000 bar, max. torque of 5 kNm and max, displacement of 300 mm

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