

μLine Industrial Interferometer for machine calibration and compensation



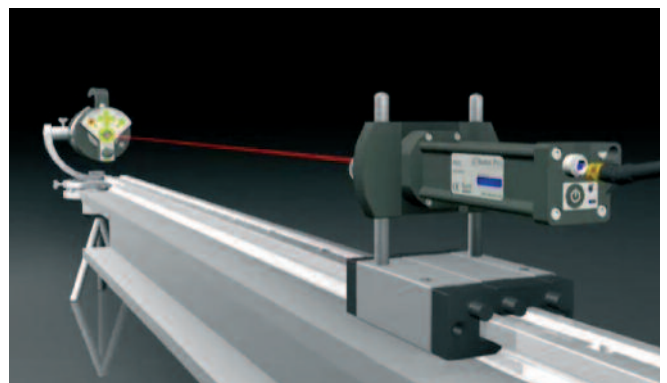
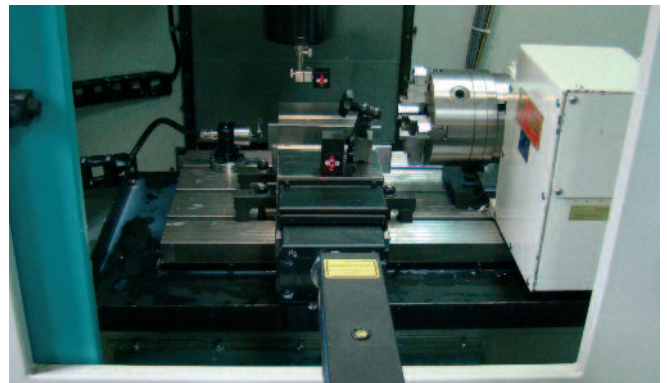
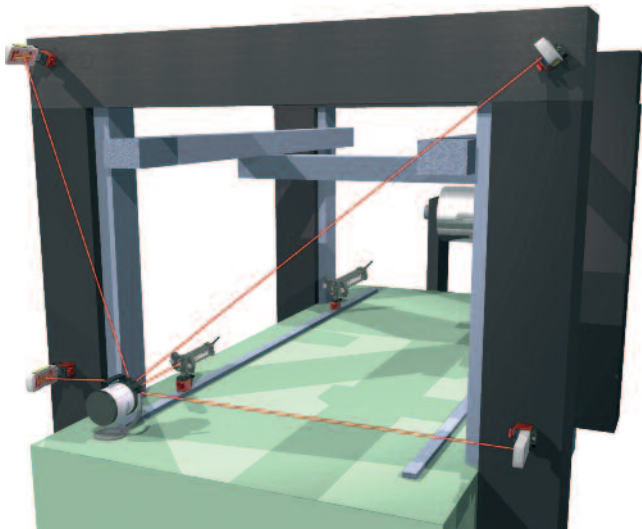
Features in overview:

- Great value for money Industrial 3D measurement System
- Robust yet precise Machine calibration in x,y, and z
- Position, distance, velocity and straightness measurement
- Two frequencies stabilized Helium Neon source
- Lightweight, Industrial design mechanics and fixtures
- Automatic generation of G-Codes for machine control
- Automatic generation of Compensation tables

Why talk to Status Pro?

Status Pro has years of experience in machine geometry measurement techniques. Straightness flatness or squareness can be measured in many different ways. For it to be practical we must consider what is being measured by whom and for what purpose. For example you would use completely different equipment for measuring the flatness of a flange on a wind tower compared to measuring the flatness of two guides on a tooling machine in a lab. All the different methods : Interferometers, PSD* or CCD* based systems also wires and spirit levels: have advantages and disadvantages. They are not good or bad, they are just more or less appropriate for the application. See for example: **ProLine**, **ProLevel**, **ProFlange**, and μ Line.

Talk to us about your application, not just about the instrument you want.



* PSD = Position sensitive device
** CCD = Charge Coupled Device

μLine - the instrument



The Laser interferometer μLine is a complete device designed especially for CNC device compensation and CMM device calibration. Its industrial design is small and light.

Main applications:

- Positioning of CNC and CMM machines
- Machine geometry inspection
- Rapid assessment of machine geometry
- Flatness measurements
- Axes parallelism measurements
- Angular positioning
- Ball screw inspection
- Machine servicing
- Vibration measurements
- Straightness measurements
- Squareness measurements
- Dynamic measurements with internal or external strobe
- Small angle measurements
- Variety of laboratory applications

The standard package of the μ Line Interferometer instrument measure the following:

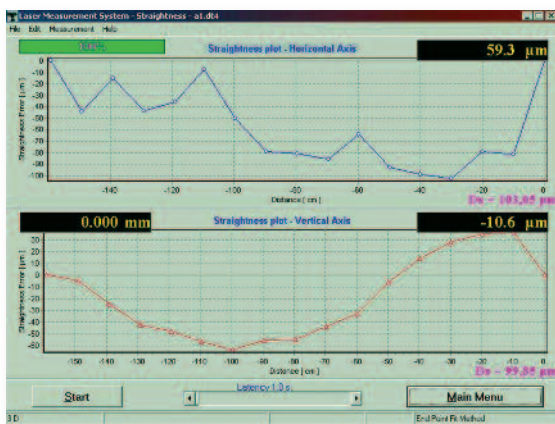
- Position
- Vibration
- Straightness in 3D
- Velocity

The orientation of the laser head is measured and displayed to aid adjustment.

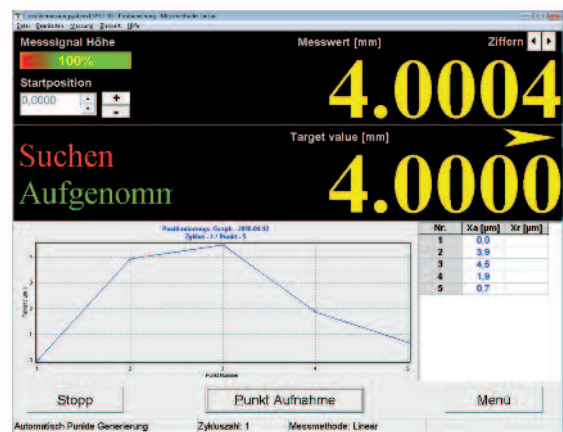
Optics and software for an „Auto-collimation type“ measurement are also available.

The Software package offers extensive support for the typical applications.

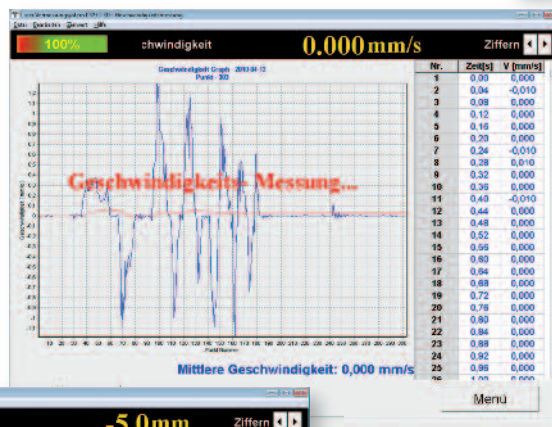
Straightness:



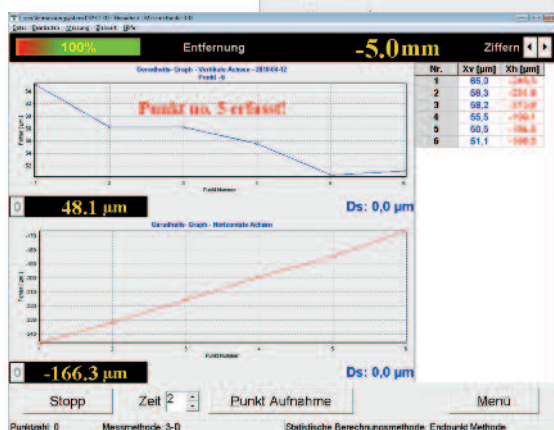
Positioning:



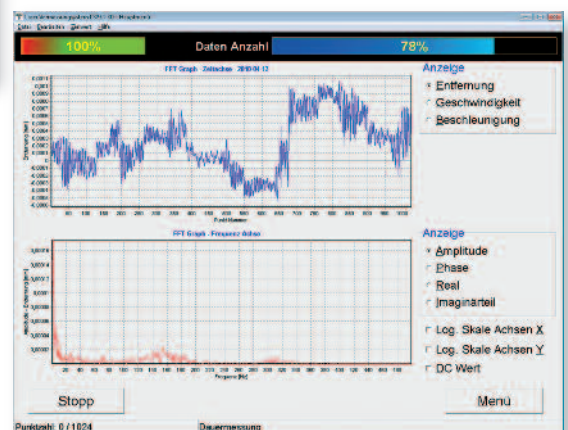
Velocity / FFT:



3D-Messung:



FFT-Analysis:



Specification:

Laser:

Laser source:	Helium Neon Laser (HeNe)
Laser Power:	< 1mW
Short term laser stability:	< 0,002 ppm
Long term laser stability:	< 0,003 ppm
Operating temperature:	10-40°C
Humidity:	0-90% non-condensing
Interface:	USB or Bluetooth
Max velocity:	2m/s
MTBF:	> 50.000 Std.
Weight:	1.5 kg
Dimensions:	60 x 60 x 245 mm

Compensation unit:

Air temperature range:	0 – 40°C
Accuracy:	0.1°C
Air pressure range:	920 – 1060hPa
Accuracy:	± 1hPa
Humidity range:	10 – 90%
Accuracy:	± 5%
Material temperature range:	0 – 40°C
Accuracy:	0.05°C

Technical Data:

Measurement mode	Range	Resolution	Accuracy
Positioning	0 – 30 m	0.01 µm (0.001 µm)	0.4 µm
Velocity	0 – 2 m/s	0.25 µm/s	0.1 %
Angle	± 5°	0.04 arcsec	± 0.2 %
Straightness measurement using angular	0 – 15 m	0.02 µm (on 100mm base)	± 0.5 %
Flatness	0 – 15 m Vertical Range ± 2 mm	0.02 µm (on 100mm base)	± 0.5 %
Straightness measurement using a Wollstone Prism	0 – 3 m	0.5 µm	± 1 % (0.5 ± 0.15 L ₂)
Straightness	0 – 5 m	0.1 µm	(5 ± 10 x L) µm L in Meters
Right angles	± 1000 arcsec	0.4 arcsec	± 1 % ± (1.5 arcsec)
Angular measurement	0 – 3600 arcsec	0.04 arcsec	± 0.2 %

The μ Line Base package for linear Measurements

Systeminhalt:

- 1 x Laser LH2
- 1 x Power supply PS2
- 1 x Tripod TS1
- 1 x Weather station (ECU) SM1
- 1 x Laser power cable CAB2
- 2 x Magnetic fixture UM1
- 1 x Linear Interferometer IL1
- 1 x Retro reflector RL1
- 3 x Base Temperature sensor T1, T2, T3
- 1 x USB Cable
- 1 x Remote
- 1 x ABS case
- 1 x PC Software package



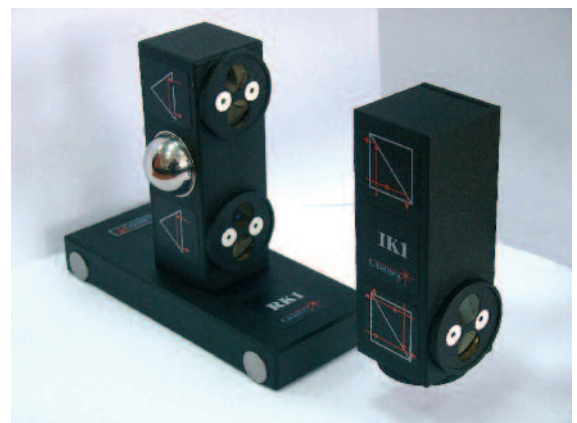
Article No.: [BG 840100 \$\mu\$ Level](#)

Optional Extension kit for Roll and Nick measurement Autocollimation type straightness

Content:

- Angle Interferometer Prism
- Angle unit with Retro
- Reflector and base 100mm

Article No.: [BG 840110 AMK-100](#)



Optional Extension kit for Flatness Measurement for surfaces up to 15 x 15 m

Content:

- Angle Interferometer Prism
- Angle unit with Retro
- Reflector and base 100mm
- 2 x Tilted Mirrors BB2

Article No.: [BG 840120 FMK-2](#)



Optional Extension kit for Straightness measurement

We have two ranges: 3m and 10 m.

Content:

Wollastone- Prism WP2-3 or WP2-10
Retro Prism WRP1
Software

Article No.: **BG 840130 SMK-3** (3 m)
BG 840140 SMK-10 (10 m)



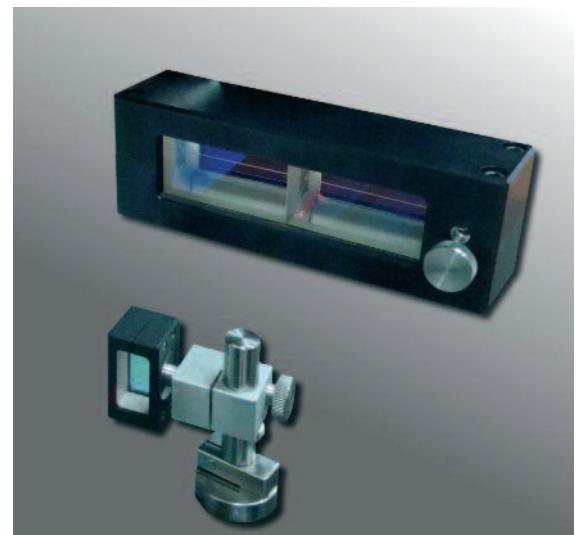
Extension Kit for right angles

3m Range.

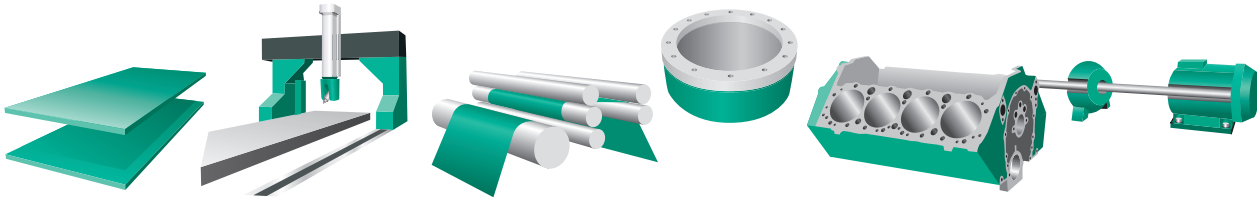
Content:

Wollastone- Prism WP2-3 or WP2-10
Retro Prism WRP1
Right angle Etalon RAE2
Software

Article No.: **BG 840150 QMK-1**



Measuring and aligning machines



Status Pro Maschinenmesstechnik offers a wide range of equipment and services for people who need to measure and align machinery, be it electronic spirit levels, active laser receivers or even interferometers, measurement assistance at home or abroad; we can probably help.

Experience: Over the past 13 years Status Pro has developed a great deal of experience in industrial geometrical measurement. The nature of the business is that the **applications** are spread across a wide range of industries. In particular we have learned a great deal about the alignment of rotating machinery in all shapes and sizes, of presses, of transport systems, of shipping drive applications, of flange measurement and roll parallelism.

Measurement Services and Training



Over the past 20 years Status Pro has developed a great deal of experience in industrial geometrical measurement. The nature of the business is that the **applications** are spread across a wide range of industries. In particular we have learned a great deal about the alignment of rotating machinery in all shapes and sizes, of presses, of transport systems, of shipping drive applications, of flange measurement and roll parallelism.

Maintenance and Rotating Machinery



Our Rotating Machinery business unit offers first class equipment and services for **condition monitoring** and machine diagnosis professionals. Here you will find for example **Laser Alignment, Pulley belt tension measurement, rolling element bearing assessment**, on-line and handheld **vibration measurement** equipment. We also offer a wide range of vibration monitoring sensors, connection boxes and cable configurations. Alternatively just call us. You will receive competent English speaking advice and assistance under : **+49/2327/9881-0**.



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