

LaserControl NT

New – the 3rd Generation
Intelligent Laser Measuring Technology by BLUM
Reliable under Extreme Conditions

reliable tool monitoring

maximum measuring accuracy

precise wear control

BLUM

LaserControl NT

Laser Measuring Systems for Machine Tools

- Reduced Set-up Time
- Unmanned Operation
- Reduced Scrap Rate
- Increased Productivity
- High Production Quality

NEW

- Laser Measuring Technology in the 3rd Generation
- Reliable under Extreme Conditions
- Increased Machining Accuracy
- Single Cutting Edge Control at Any Speed
- Programmable by Integrated Microprocessor

Patented





The optic of the BLUM LaserControl NT is perfectly sealed against coolant and chips by a smart mechanical protection system.

The shutter combined with the original BLUM pneumatic unit guarantees low-maintenance operation at minimal energy costs.



Problem



Solution



Result

**Easy application and
100 % reliability with the
BLUM System:**

- Laser System
- Pneumatic Unit
- Software
- Service Worldwide
- More than 20,000 installations



BLUM Pneumatic Unit

LaserControl NT

BLUM High-Tech Laser Systems guarantee the highest precision and reliability under the roughest working conditions.

For more than 20 years the LaserControl by BLUM stands for constant manufacturing quality as well as minimized down-times.

The perfect protection, the rugged mechanical design, the high-quality laser and the intelligent electronics guarantee the proven reliability and precision.



Tool setting

LaserControl allows fast, precise and automatic tool setting or identification. Length, radius and runout/roundness are measured in the real clamping system at nominal speed. Errors of tool, spindle and tool seating accuracy are instantly measured and corrected.

Your advantage:

Highest manufacturing quality, minimum setting time and maximum security.



Form control

The BLUM LaserControl NT checks a wide range of tools for form errors fast, securely and guaranteed free of collision.

Your advantage:

Constant manufacturing quality by early wear recognition. Reduced manufacturing costs by timely tool change.



Breakage control

Shaft breakage

With LaserControl NT even the smallest tools are checked fast, securely and guaranteed free of collision. Tough diamond and CBN tools are no problem for the LaserControl.

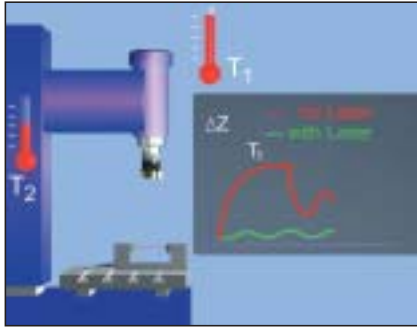


Single cutting edge control

The integrated electronic system checks each individual cutting edge under full speed.

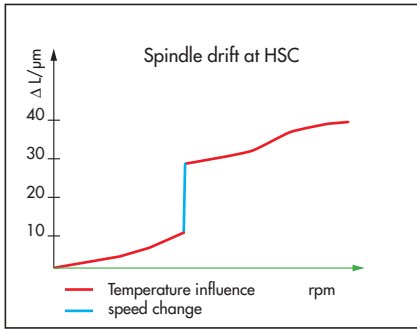
Advantages for your production:

Immediate breakage detection avoids consequential damages. Flexible solution at economic costs.



Compensation of machine axes

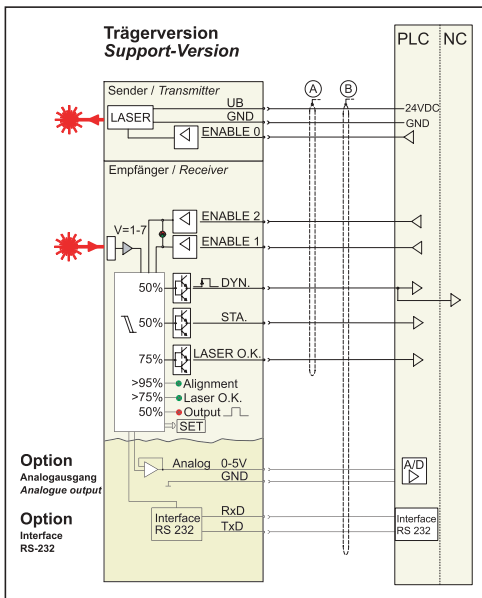
The accuracy of today's machine tools is heavily influenced by temperature. The temperature differences within the machine caused by spindle motors, axis motions, the machining process and sunlight cause errors, which can significantly exceed the work piece tolerances.



A further problem is the drifting of the spindle at high speeds.

Your advantage:

With BLUM LaserControl NT, constant high machine accuracy is possible due to automatic correction of drifted axes as well as drifted spindles on high speed machines.



Electrical connection

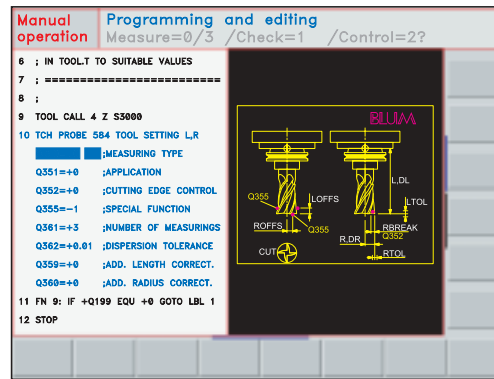
| | |
|------------------------|--|
| Laser protection class | class 2 acc. to IEC 60825-1 |
| | 21 CFR 1040.10 |
| Laser type | visible redlight laser/630 – 700 nm/< 1 mW |
| Protection class | IP68 |
| Current supply | 24 V DC / 160 mA |
| Inputs | 24 V DC |
| Outputs | 24 V DC |
| | 0-10 V DC analogue output* |
| Repetition accuracy | Δ transmitter/receiver < 100 mm ± 0,2 μm** |
| | Δ transmitter/receiver < 1.000 mm ± 1,0 μm** |
| Minimum tool diameter | Δ transmitter/receiver < 100 mm 30 μm** |
| | Δ transmitter/receiver < 1.000 mm 100 μm** |
| Test speed (spindle) | 750 rpm to 150.000 rpm |

Technical Data

* Option

** Depending on installation situation, stability of fixation, distance and measuring mode

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Tool setting, length and radius measurement

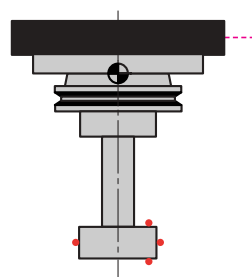
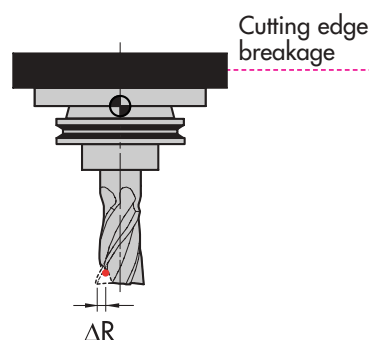
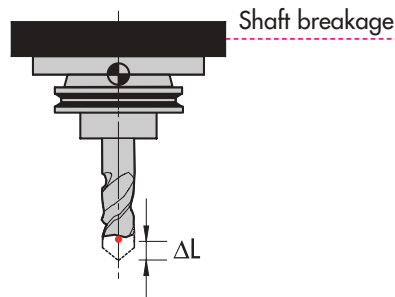
Universal measuring program to determine length, radius and concentricity. Optional cycles for ball center, cutting edge radii and special tools.

This cycle contains:

- Tool setting with automatic transmission of tool data
- Wear control with/without correction of tool data
- Identification with/without correction of tool data

Your advantages:

- Integrated tool setting with automatic update of tool data
- Constant process monitoring with control of tool data avoid consequential damages due to wear or tool breakage
- Immediate pay back by eliminating costly external tool setting and labor
- Superior part quality due to precise tool length, diameter and radial measuring at nominal speed
- Minimal downtime by quick availability of the tool data
- Quick detection of radial runout
- Minimal risk due to automatic transfer of tool data



Tool breakage detection

Our proven measuring cycles will guarantee reliable tool breakage monitoring even with a large amount of coolant present.

Your advantages:

- Superior control for unmanned machining operations
- Minimal downtime by in-process error detection and avoidance of consequential damages
- Consistent manufacturing quality by early error detection

Calibration

The calibration cycle is used for high precision determination of the trigger point in the machine coordinate system.

BLUM Measuring cycles are available for many NC controls:

Andron, Atek, Brother, Elexa, Fadal, Fanuc, Haas, Heidenhain, Mazak/Fusion, Mitsubishi, NUM, Okuma, Osai, Selca, Siemens, Toshiba, Yasnac

Customized adaptations can be easily developed.

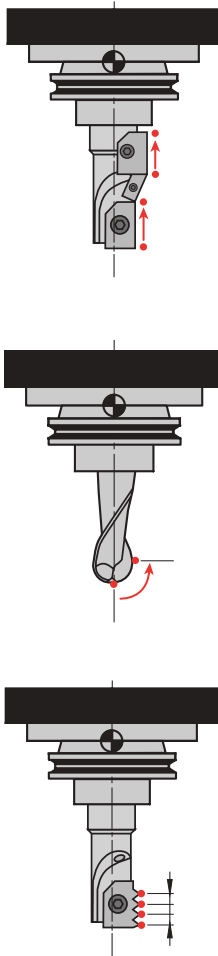
The proven BLUM measuring cycles will cover all your measuring needs.

The measuring programs will guarantee you the very highest precision, flexibility and in-process quality at your machine tool.

Our measuring cycles are supported by detailed documentation available in many languages.

We will support you at any time with our qualified technical staff.

BLUM measuring cycles will enhance your technology advancement.

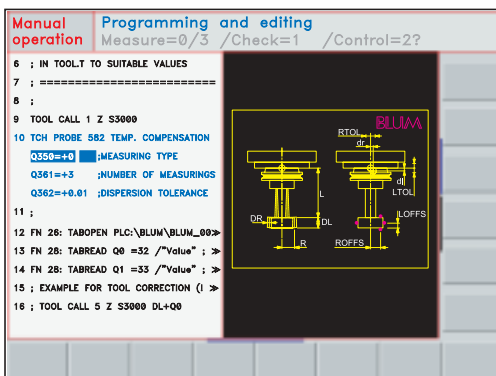


Form scanning, single cutting edge control

With optical non-contact measuring, a variety of tools can be measured and scanned fast, precisely and free of collision.

Your advantages:

- On-machine, in-process control of tool geometry
- Consistent manufacturing quality by early detection of cutting edge breakage
- Cost savings due to reduction of defective parts by initiating timely tool change



Temperature compensation

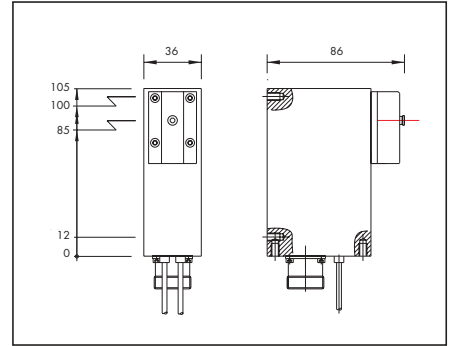
The BLUM calibration tool measures and automatically compensates for temperature drift of machine axis and spindle. The measured drift is corrected by adding a zero-offset.

Your advantages:

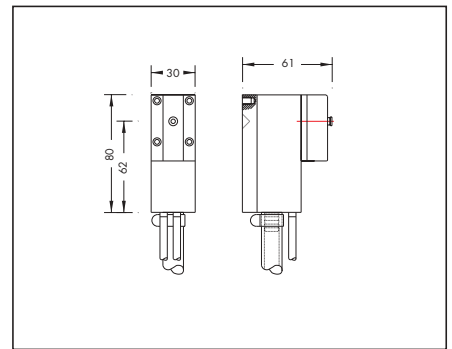
- Consistently high machine accuracy due to automatic axis drift compensation
- Reduced tool wear at High-Speed-Cutting by dynamically adjusted tools

LaserControl NT

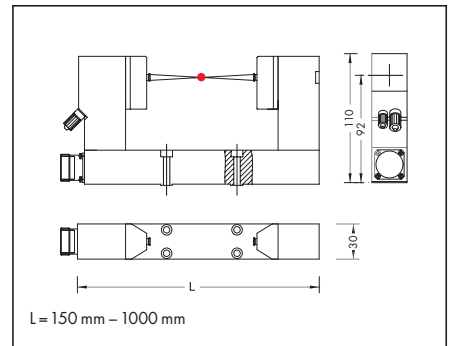
LaserControl NT mini



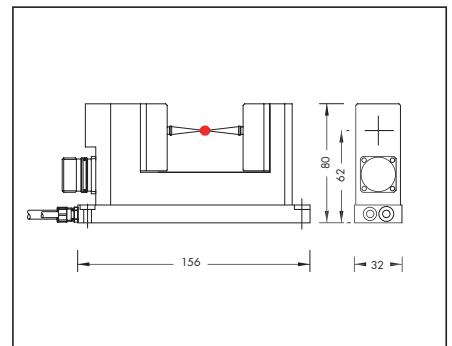
LaserControl micro single



LaserControl NT micro compact



LaserControl NT nano



All systems are available in different variants and designs.



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