BLUM

focus on productivity

LaserControl Series

LASER MEASURING SYSTEMS WITH DIGILOG TECHNOLOGY

01 LC50-DIGILOG
FUTURE-ORIENTATED LASER MEASURING SYSTEM FOR MACHINING CENTRES

Reinvented by the inventor. The impressive performance of the LaserControl series has been ensuring maximum precision, reliability and efficiency in countless machining centres for decades now. From machines for micro-machining, to series production right up to large component machining, these systems are used to guarantee highest quality around the clock for an economically viable price. And the latest generation is writing a new chapter in this success story: The trailblazing DIGILOG technology opens up a multitude of previously inconceivable applications in production measurement technology.

– AUTOMATIC MEASUREMENTS DELIVER HUGE TIME SAVINGS

– HIGHEST QUALITY LEVELS WITH MINIMAL REJECTS

– IMPLEMENTATION OF CONTINUOUS PROCESS CHAINS

– LOW-MANPOWER, AUTOMATED OPERATION

– A NEW DIMENSION OF IN-PROCESS RELIABILITY

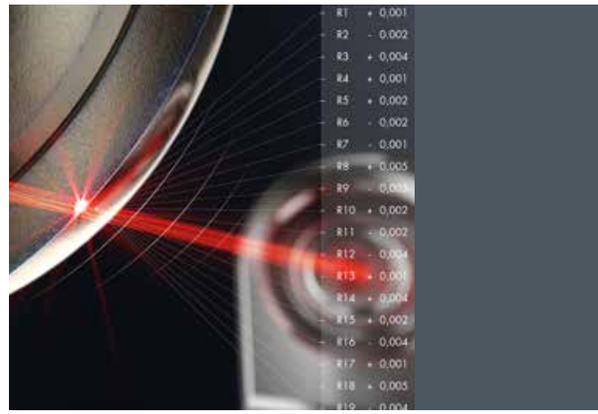
– MEASUREMENT AND MONITORING OF ALL KINDS OF TOOLS, TOOL FORMS AND CUTTING MATERIALS

– COMPENSATION OF SPINDLE DRIFT AND TOOL CUTTING EDGE RUN-OUT ERRORS

02 DIGILOG Technology

MORE THAN JUST A NEW CHAPTER IN MEASUREMENT TECHNOLOGY

Digital is already outdated – the future is DIGILOG. Starting with the touch probes, DIGILOG technology has now also revolutionized laser measurement technology for machine tools. It provides for the analogue signal evaluation of all the cutting edges of a tool. This results in an extremely large number of measuring values in a very short space of time, making tool measurement more precise, fast and reliable than ever before.



Thousands of measuring values per second

FAST.

– HIGHLY DYNAMIC MEASUREMENT OF ALL TOOL PARAMETERS

– THOUSANDS OF MEASURING VALUES OF ALL TOOL CUTTING EDGES PER SECOND

– UP TO 60% LESS MEASURING AND CHECKING TIME

– DYNAMIC ADJUSTMENT OF THE MEASURING SPEED ACCORDING TO THE NOMINAL TOOL RPM

PRECISE.

– DIGILOG CALIBRATION WITH INTEGRATED RUN-OUT MONITORING

– EVALUATION OF A DATA STREAM

– CONSISTENTLY GOOD PART PRECISION THROUGH PROCESS INTEGRATED TEMPERATURE COMPENSATION

– RECOGNITION OF CHANGES IN GEOMETRY SUCH AS TOOL CUTTING EDGE WEAR

RELIABLE.

– RELIABLE MEASUREMENT EVEN WITH COOLANT INFLUENCE

– AUTOMATIC FILTERING OF DIRT AND COOLANT RESIDUE ON TOOL

– RUN-OUT MONITORING DETECTS BAD AND DIRTY TOOL HOLDERS AND SOILING

03 smartDock
INTERFACE FOR ALL CONFIGURATIONS

smartDock is a globally unique standard interface for all support systems for the current BLUM laser measuring system series. The unusually compact design integrates all pneumatic valves required for operation in addition to the electrical, mechanical and pneumatic connectors. This space-saving combination of intelligent interface and connections makes assembly more straightforward and allows more freedom when it comes to integrating the system into the machine space.

smartDock Type 3
Variant with lateral cable exit for lateral attachment to machine table / wall for better appearance without visible cable

smartDock Type 1
Variant for mounting on machine table

smartDock Type 2
Variant with cable exit downwards for uncluttered attachment on the machine table without visible cable

– ONLY 2 CONNECTING LINES

– HIGH-END PNEUMATIC VALVES WITH ULTRA-SHORT SWITCHING TIMES

– NO SEPARATE PNEUMATIC UNIT NEEDED

– COMPATIBLE WITH ALL SYSTEM VARIANTS

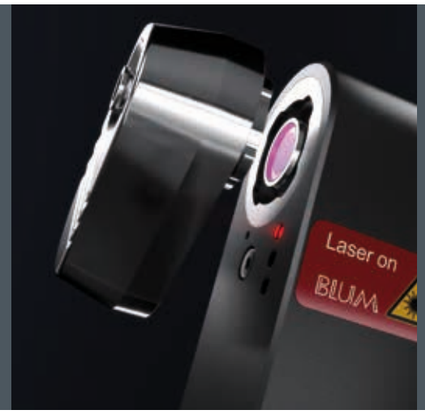
– EASY SYSTEM EXCHANGE FOR MEASURING LARGER TOOLS

– FASTER REPLACEMENT FOR MINIMIZING MACHINE DOWNTIME

– ALLOWS FOR EASY LASER RETROFIT

04 DESIGN
EVERYTHING FOR HIGHEST PERFORMANCE

The development of the LaserControl DIGILOG series has benefited from know-how gathered in more than 30 years of laser measurement technology for machine tools. The new generation features a modern form, optimized for the cutting process, high-end components and measurement performance that cannot be matched worldwide.



Unique shutters

HPC nozzle

PREMIUM LASER OPTICS

The laser optics have always been the heart of BLUM laser measuring systems. It forms the basis for the unparalleled repeatability and absolute accuracy ratings. The high quality, the coherent beam geometry and the focused laser beam make for optimal measurement results, even when measuring micro-tools and extremely small cutting edge geometries. This ensures the best performance under the most difficult conditions and a degree of precision that is in a class of its own compared with all relevantly comparable measuring systems.

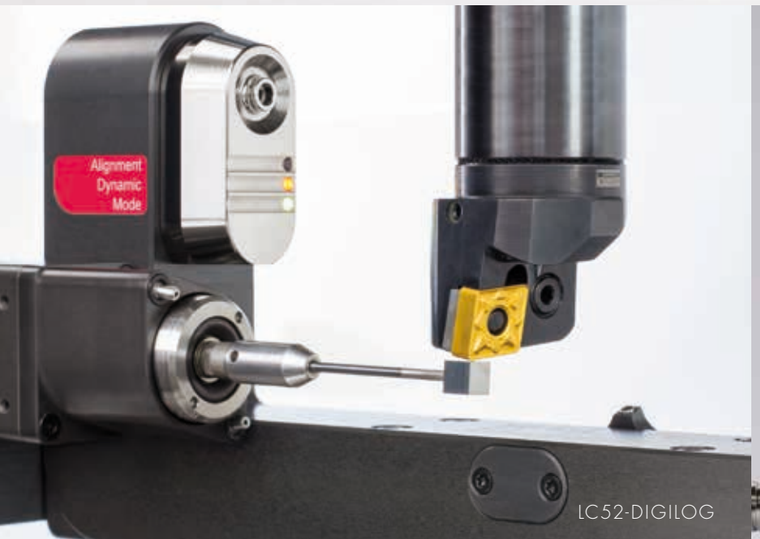
UNIQUE SHUTTERS

Thanks to a complete redesign, the shutters guarantee reliable operation in any production situation. Together with the explosion-type cleaning of the shutter aperture, the extremely strong stream of barrier air provides the best possible protection for the optical equipment. Further highlights include reducing the air consumption to zero during stand-by and the laminar flow of air to ensure highest levels of precision.

HPC NOZZLE

All current laser measuring systems are now supplied with the new HPC nozzle as standard. The ingenious construction means that it can be mounted on either side, and it works with an integrated check valve to prevent coolant accumulating. The very high-pressure cleaning and the air jet that is perfectly concentrated onto the measurement point, allow for fast and residue-free cleaning-off of coolants, chips and other kinds of soiling.

LC50-DIGILOG



LC52-DIGILOG

LC52-DIGILOG with protective sleeve

05 THE SYSTEMS
COMPACT & 3D

LC50-DIGILOG

The compact support systems can be used on a great variety of machine types on account of their excellent precision and reliability. As standard, the LC50 is supplied in a length of 150 - 500 mm. The premium laser optics make the system suitable for use in small high-end machines and in micro-machining scenarios.

– SUPPORT SYSTEMS PROVIDE HIGHEST PRECISION

– FAST, PRECISE AND AUTOMATIC MEASUREMENT OF ALL KINDS OF TOOLS, TOOL FORMS AND CUTTING MATERIALS

– PRE-ALIGNED LASER FOR EASY MOUNTING

LC52-DIGILOG

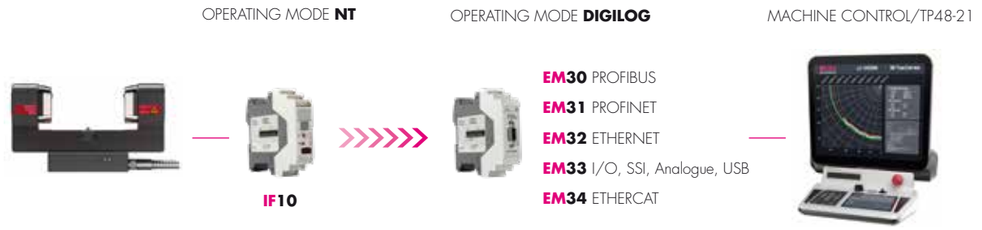
Laser measuring system with 3D touch probe for setting and monitoring the entire tool spectrum of combined turning/milling machines. Non-contact measuring of rotating tools using laser measuring system and fast contact measuring of non-rotating tools using touch probe.

– COMBINES THE BENEFITS OF TWO MEASURING TECHNOLOGIES IN ONE COMPACT SYSTEM

– FASTEST TURNING TOOL MEASUREMENT

– COST EFFECTIVE – A SINGLE SYSTEM FOR BOTH TURNING AND MILLING TOOLS

SYSTEM OVERVIEW



System length LC50 | LC52*	150 mm	200 mm	260 mm	300 mm	400 mm	500 mm
MAX. TOOL Ø	36 mm	120 mm	314 mm	498 mm	1154 mm	2087 mm
MIN. TOOL Ø**	5***/15 µm	20 µm	30 µm	37 µm	49 µm	66 µm
REPEATABILITY**	0.2 µm 2σ	0.3 µm 2σ	0.4 µm 2σ	0.5 µm 2σ	0.7 µm 2σ	0.9 µm 2σ

** Standard system length: 260 mm, further system lengths on request ** Depending on the installation situation and stability of mounting *** 5 µm possible, with adaptation of software parameters*

DIGILOG – ONE TECHNOLOGY...

This is where components work together that belong together. Dependable sensor technology is essential for low-manpower, in-process reliability in production. In response to this, BLUM is already in a position to fulfil the demands that Industry 4.0 networked production will be making. DIGILOG technology will be playing a decisive role here: The future-oriented measuring systems open up revolutionary options for production processes because of the data pool generated through thousands of measuring values per second. They cover contour scans with DIGILOG touch probes, process-integrated roughness measuring, bore gauges for series production and of course tool measurement using DIGILOG laser measuring systems. The perfect interaction is reflected in the interface hardware as well. It is based on a modular system and can be modified extremely easily to accommodate further measuring systems.

... MANY POSSIBILITIES.

- Tool Breakage Detection
- Tool Length Measurement
- Tool Radius Measurement
- Tool Form Measurement
- Tool Form Monitoring
- Single Cutting Edge Monitoring
- Wear Compensation
- Axes Compensation
- DIGILOG Calibration
- ProfileControl
- GrindControl
- OrientateTool
- ToolTipControl
- ChamferControl
- ConicalToolControl

and much more...

- MicroWearControl
- RunoutControl
- 3D ToolControl
- SpindleControl

BLUM measureXpert APP

ANDROID APP ON Google play

BLUM measure XPERT

Available on the App Store

www.blum-novotest.com

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