Precise and fast: Wavemeter from Bristol Instruments

Manufacturer: Bristol Instruments
Distributor: MG Optical Solutions
Product: New Wavemeter 872a with industry-leading resolution and automatic wavelength calibration
Features: The wavemeter 872A offers 1000 measurements per second with 1 ppb (parts per billion) resolution during 10 minutes of measurement time. Using very stable reference sources under test in leading quantum labs a resolution of tens of kHz was observed. This unmatched resolution plus the BRISTOL INSTRUMENTS specific feature "always better than spec" makes the 872A wavemeter to the most powerful commercially available wavemeter in the market. Automatic calibration based on an internal reference source and the possibility to calibrate using customer's own stabilized lasers makes it a valuable tool for quantum technology. Its short delivery times and internal PID-controller

with switches should be kept in mind for your project.

About Bristol Instruments
Since its founding in 2005, Bristol Instruments has focused on designing, manufacturing, and marketing precision instruments based on optical interferometry. Its flagship products accurately characterize the wavelength and spectral properties of lasers and are used by scientists and engineers in academic, government, and industrial laboratories. Bristol's solutions also support the development and production testing of laser transmitters for optical fiber communications, as well as non-contact thickness gauges for highly accurate measurements of materials such as specialty plastic films, medical tubing, displays, and ophthalmic products.

About MG Optical Solutions
In about 20 years MG Optical Solutions became a photonic specialist in MIDIR spectral range, laser technology and spectroscopy. More recently quantum technology and frequency combs got in to the center of our activities.

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Single frequency CW Ti:sapphire laser

Manufacturer: HÜBNER Photonics
Product: Single frequency CW Ti:sapphire laser: 700 - 1000 nm, up to 4 W
Features: HÜBNER Photonics, manufacturer of high-performance lasers for advanced imaging, detection and analysis, announces the latest addition to the C-WAVE product line of single frequency, continuous wave widely tunable lasers. The C-WAVE BTS offers watt-level, single frequency, tunable laser light in the wavelength range between 700 and 1000 nm at an unprecedented level of automation and user friendliness.

The PRISM award winning HÜBNER Photonics C-WAVE is known for the widest coverage of single frequency tunable cw laser light on the market at the push of a button. Based on Ti:sapphire laser technology the C-WAVE BTS (Broadband Titanium Sapphire) complements the market established C-WAVE VIS and C-WAVE GTR models which are based on OPO (optical parametric oscillator) technology. Together these models offer full coverage of the visible spectrum from 450 nm up to 3.4 µm. Based on the robust hardware platform used and tested in laboratories and at industrial customers around the world, C-WAVE BTS enables users to focus on their experiment rather than their laser. The highest degree of automation gives researchers new possibilities in spectroscopy, in particular resonant Raman spectroscopy, as well as quantum material research alike.

About HÜBNER Photonics
HÜBNER Photonics is committed to supplying high performance and innovative lasers that meet or exceed the market's expectations concerning quality, reliability and robustness. HÜBNER Photonics offers the full range of high performance Cobolt lasers, the CW tunable laser C-WAVE along and a full selection of C-FLEX laser combiners. Through continuous technology development, customer orientation and an ISO certified quality management system, HÜBNER Photonics has become a preferred supplier of lasers to major instrument manufacturers and leading research labs for cutting-edge applications in the areas of fluorescence microscopy, flow cytometry, Raman spectroscopy, metrology, holography, nanophotonics and quantum research. HÜBNER Photonics has manufacturing sites in Hannover and Kassel, Germany and Stockholm, Sweden with direct sales and service offices in USA and UK.

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TECHSPEC® Gemma Variable Beam Expanders Unite Industrial-Grade

Manufacturer: Edmund Optics Europe
Product: The TECHSPEC® Gemma Variable Beam Expanders are industrial-grade variable beam expanders built for laser system teams that need continuous magnification control, high optical performance, and reliable sourcing. Available in 2-8X and 1-3X magnification ranges, Gemma beam expanders support fast evaluation and straightforward integration for R&D, prototyping, and production programs.
Features: With continuous magnification adjustment, users can dial in the desired expansion without swapping optics or rebuilding alignment. The robust design helps reduce setup time while maintaining excellent transmitted wavefront performance for demanding beam delivery and beam conditioning applications.

Designed without internal focusing, the TECHSPEC® Gemma Variable Beam Expanders are well-suited for higher-power laser operation and stability-sensitive systems. Large input and output apertures broad beam diameters and improve ease of use during integration. High laser damage threshold AR coatings for nanosecond lasers provide support for common industrial wavelengths.

The TECHSPEC® Gemma Variable Beam Expanders are offered at 355 nm, 532 nm, and 1064 nm for the 2-8X models, with 532 nm and 1064 nm options available for the 1-3X models (355 nm coming soon). Designed and manufactured in-house, with application support available for product selection and custom configuration requests. This in-house expertise also enables custom configurations such as wavelength optimization, alternative magnification ranges, and mechanical modifications.

With broad in-stock availability, technical support, and access to complementary optical components from a single supplier, the TECHSPEC® Gemma Variable Beam Expanders enable confident, one-stop-shop procurement for laser system development teams.

About Edmund Optics
With over 80 years of experience, Edmund Optics® is a trusted provider of high-quality optical components and solutions, serving industries such as Life Sciences, Biomedical, Industrial Inspection, Semiconductor, and R&D. The company employs 1,300+ people across 19 global locations and continues to grow. Edmund Optics offers two specialized solutions: a robust Marketplace with 34,000+ off-the-shelf products and Advanced Manufacturing for custom and volume production of precision optical and imaging components.

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World record: 147 days in locking RUBRIComb Frequency Comb

Manufacturer: VESCENT
Distributor: MG Optical Solutions
Product: Long performance test of RUBRIComb achieves world record
Features: The RUBRIComb from VESCENT is actually running a long-term performance test and passed more than 147 days in permanent lock without any manual intervention under standard conditions. This is the status 10th of January 2026 and the test will be continued. This breakthrough in stability and ruggedness will allow the use of frequency combs in "real world applications". The RUBRIComb from Vescent is ready for these applications. It fits in a 19" rack (2HU), passed intensive shock and vibration tests and remains locked to a single frequency over months without any intervention from a user. Spectral extensions can be stacked.

About Vescent
Vescent was founded 2002 in Golden near Denver/Colorado. The company is known for its ultra-stable lasers, controllers and more recently frequency combs. MGOS is the exclusive distributor of Vescent in the DACH region. Further information can be found under www.mgopticalsolutions.com/produkte/hersteller/vescentphotonics.

About MG Optical Solutions
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Next-Generation Dynamic Light Scattering

Manufacturer: Swabian Instruments
Product: Software-defined multi-angle analysis enables real-time kinetic measurements: Swabian Instruments advances particle characterization with DLScat, a platform that replaces conventional hardware correlators with software-defined analysis. By time-stamping individual photons with picosecond precision, the system provides unprecedented flexibility in measuring dynamic processes across multiple scattering angles simultaneously.
Features: Traditional DLS systems compute correlation functions in hardware, limiting post-acquisition analysis and making kinetic studies challenging. DLScat's Time Tagger 20 records complete photon arrival data, enabling researchers to track particle size evolution during aggregation, polymerization, or formulation processes. Pharmaceutical developers can monitor protein aggregation kinetics in real time, while materials scientists observe nanoparticle growth dynamics without interrupting measurements.

The software-defined approach allows on-the-fly adjustment of correlation parameters and immediate filtering of contamination artifacts. Users access raw photon streams for custom analysis, adapting measurement protocols to specific sample requirements without hardware constraints.

DLScat measures at up to five angles simultaneously (20°, 69°, 90°, 111°, and 157°), resolving polydisperse distributions that single-angle systems cannot adequately characterize. Forward scattering enhances sensitivity to large aggregates, while backscattering optimizes detection of sub-50 nm particles. This configuration provides internal consistency checks and improves accuracy for anisotropic samples.

Cross-correlation at the backscattering angle suppresses detector afterpulsing artifacts, ensuring reliable measurements even for weakly scattering samples such as dilute proteins or small nanoparticles.

As a complete platform, DLScat integrates laser, detectors, electronics, and analysis software while maintaining modularity for specialized applications. The system supports temperature control, in-situ measurements alongside complementary techniques, and custom optical configurations through fiber-coupled detectors.

Analysis algorithms include both cumulants fitting for monomodal samples and CONTIN distribution methods for complex systems. Complete data transparency distinguishes DLScat from black-box instruments: researchers retain full access to correlation functions, photon statistics, and raw timing data.

This combination of ease-of-use and research-grade capabilities positions DLScat for applications spanning pharmaceutical quality control, nanomedicine development, and materials science research where understanding dynamic processes is essential.

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Certified Quality: Thyracont Vacuum Instruments Achieves ISO 9001 Certification

Manufacturer: Thyracont
For more than 50 years, quality, reliability, and continuous improvement have been at the core of Thyracont Vacuum Instruments GmbH. As formal confirmation of these long-established quality standards, the company decided on certification in accordance with the international quality management standard ISO 9001. At the same time, the certification provides a solid foundation for further growth and the development of new business partnerships.

"ISO 9001 certification was a logical step for us to make our high quality standards transparent and comparable," says Frank P. Salzberger, Managing Director of Thyracont Vacuum Instruments. "It underlines our role as a reliable partner and confirms our commitment to consistently providing our customers with high-quality products and services."

The ISO 9001 certification also demonstrates that Thyracont operates an effective quality management system based on clearly defined processes that are continuously reviewed and improved. To further ensure the reliable fulfillment of customer requirements and the ongoing optimization of internal workflows, the position of Quality Management Representative has been newly appointed.

The certification process was completed quickly and smoothly for the Germany-based company. The successful audit confirms that the existing structures and processes already met the requirements of the international standard.

With ISO 9001 certification, Thyracont not only strengthens the trust of existing customers and partners but also sends a clear signal for sustainable quality and long-term corporate development.

About Thyracont
Thyracont Vacuum Instruments GmbH has been developing, manufacturing, and distributing intelligent vacuum measurement technology "Made in Germany" for more than 50 years. Its innovative and comprehensive product portfolio of vacuum gauges makes an important contribution to sustainable future technologies in industry and research. Renewable energy, electromobility, and modern medical technology would be inconceivable without vacuum technology.

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