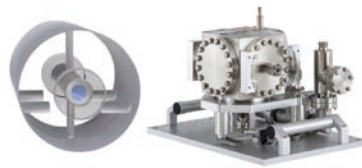


XM-ORC Series of optical reference cavities with crystalline mirrors

Manufacturer: Menlo Systems, together with Thorlabs.

Product: New “XM-ORC” line of jointly developed high-finesse optical reference cavities.

Features: The XM-ORC series is comprised of a 12.1 cm long cylindrical ultra-low expansion (ULE) glass spacer incorporating cavity mirrors with high-reflectivity crystalline (“xtal stable”) coatings on fused silica substrates, all housed in a stainless-steel vacuum chamber. Designed to provide the ultimate in laser stability, the XM-ORC includes all necessary hardware to stabilize the cavity at its zero-crossing of the thermal expansion coefficient, which is near room temperature.



These optical reference cavities are delivered with finesse values either in excess of 300,000 (for operation at 1550 nm or 1397 nm) or greater than 100,000 (for operation at 1064 nm). Other wavelengths are available upon request. Comprising a thermal noise ADEV limit as low as $1.6 \cdot 10^{-16}$ and a low linear drift rate of ~ 150 mHz/s,

the XM-ORC series is the ultimate reference for cavity-stabilized lasers.

Applications: The XM-ORC is ideal for select applications in high resolution spectroscopy, quantum computing, optical clocks, cooling and trapping of atoms and ions, and low-noise microwave generation.

Menlo Systems GmbH

Bunsenstr. 5
82152 Martinsried, Germany
Phone: +49 89 189166-0
e-mail: sales@menlosystems.com
Web: www.menlosystems.com

Compact controller saves space and energy for laser welding

Manufacturer: Blackbird Robotersysteme.

Product: Especially compact “ScannerControlBox” (SCB) scanner controller that simplifies and accelerates the integration of a welding system in automatic production systems and robot cells.

Background: Remote laser welding has become an ever more attractive joining method for a variety of materials – also in applications beyond the automotive industry. For all applications, users face the challenge of integrating the laser scanners as easily as possible into existing or planned production systems. The dimensions play an almost as important role as the available interfaces and field bus systems.

Features: Weighing 37 kg, the new controller solution is comparatively lightweight. It



can be easily wall mounted and therefore saves valuable space. The interfaces are accessible from below, which enables a plug-and-play mode installation. The controller can be connected and commissioned without additional pre-settings and driver installations. The functional scope of the new controller has been reduced to cover

basic requirements and it is well suited, for example, for welding applications in the electrical mobility environment and for on-the-fly operation. It was possible to lower the energy consumption to a minimum by the performance-relevant selection of components. The high-performance processor guarantees efficient data processing and program handling. If only limited space is available, the new scanner can be used instead of its larger sister, the “SCU 3”.

Blackbird Robotersysteme GmbH

Carl-Zeiss-Str. 5
85748 Garching, Germany
phone: +49 89 307 484 700
e-mail: news@blackbird-robotics.de
Web: www.blackbird-robotics.de

ISO 17025 compliant on-site testing at the customer’s premises

Supplier: Instrument Systems

Product: Germany’s national accreditation body (DAkkS) has extended Instrument Systems’ accreditation. In addition to on-site testing of DMS display measurement systems, *Instrument Systems* is now also accredited for ISO 17025 compliant testing of illuminance with its large “AMS” and “LGS” goniophotometers at the installation site.

Customers can now receive an ISO 17025 compliant test certificate for the “DSP

200” and “DSP 10” photometers, even if they are tested and adjusted at their site of operation. This means only a minimal interruption of operation of the often continuously run quality controls and COP tests, as it is no longer necessary to dismantle the equipment and send it to the manufacturer.

Thanks to the innovative testing procedure specially developed by *Instrument Systems*, which was subject of thorough review by the accreditation body, Instru-

ment Systems is one of few technical service providers to hold an ISO 17025 accreditation for on-site testing of its equipment.

Instrument Systems GmbH

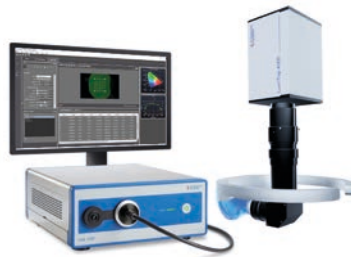
Kastenbauerstraße 2
81677 Munich, Germany
phone: +49 89 454943-0
e-mail: sales@instrumentsystems.de
Web: www.instrumentsystems.de

Spectral characterization of VCSELs, microLEDs and AR/VR displays

Manufacturer: Instrument Systems

At the SPIE Photonics West 2023 (USA), the manufacturer showed its premium-class spectroradiometers and combined measurement solutions with absolutely calibrated cameras.

Products: Different model variants of the spectrally enhanced LumiTop 2D imaging colorimeter are available. The LumiTop 4000 is perfectly suited to the testing of μ LED arrays in AFS applications. The 12 MP camera simultaneously measures the individual LEDs of the array and, due to its high measurement speed, avoids the temperature dependence of high-performance LEDs. The LumiTop AR/VR with a periscope lens permits parallel 2-eye measurements for AR/VR headsets, even in confined spaces. The proven LumiTop principle guarantees fast, traceable and highly accurate measurements.



Thanks to its innovative one-shot process, the VTC infrared camera simultaneously measures the spatial polarization of the individual emitters of a VCSEL array and delivers the information necessary to reduce the polarization dependence of the measurement setup. This procedure minimizes the error budget of the VCSEL

test system and delivers highly accurate readings for eye safety of the laser source. Manufacturers can then exploit the full performance efficiency of VCSELs / lasers while guaranteeing safe operation. All systems are available for lab use and – with a focus on faster clocking rates – for production applications.

Instrument Systems GmbH

Kastenvauerstraße 2
81677 München, Germany
phone: +49 89 454 9430
e-mail: sales@instrumentsystems.de
Web: www.instrumentsystems.de

Low-noise picowatt photoreceivers with switchable gain

Manufacturer: Femto Messtechnik

Product: The low-noise Si and InGaAs photoreceiver “PWPR-2K” series enables measurements of optical signals down to the picowatt range, at a bandwidth of 2 kHz. The gain setting is switchable in two steps to enable adaption to different signal intensities. Connection of fibers to the free space input is possible using optionally available adapters.

Features: The photoreceivers cover the spectral range from 320 nm to 1060 nm (Si) and from 900 nm to 1700 nm (InGaAs), respectively. The very low noise level with NEP less than $10 \text{ fW}/\sqrt{\text{Hz}}$ enables acquisition of smallest intensities in the frequency range from DC to 2 kHz. The gain can be switched between 10^9 V/A and 10^{10} V/A . The photoreceivers are equipped with UNC 8-32 and M4 threaded holes and can

be mounted easily and stably onto conventional post holders for integration into optical systems. The free space inputs are available with 1.035”-40 threaded flange or alternatively with 25 mm round flange. The optionally available “PRA-FC”, “PRA-FCA” and “PRA-FSMA” fiber adapters can be screwed onto the threaded flange to connect to FC or FSMA fibers.

Applications: Spectroscopy, characterization of light sources, time-resolved pulse measurements and plenty more.

Femto Messtechnik GmbH

Klosterstr. 64
10179 Berlin, Germany
phone: +49 30 2804711-0
e-mail: info@femto.de
Web: www.femto.de

